meca DIFFUSION

IN TEST WE TRUST

TEST BENCHES
FOR VALVES, PIPES
& ACTUATORS

think'PC PROGETTI

IN TEST WE TRUST

That's our mission!

We do trust in test results as key factor for a successful business.
Testing products to improve their quality and be protected from any risk doing it.
Think' PC PROGETTI offers a complete selection of test benches rigorously designed according to the most important international standards and specific custom necessities.
Our test benches are a successful combination of modern engineering and advanced technology.
They are a reliable tool for our clients that are producing high quality components all around the world.
We believe that our clients deserve the best available resources on the market.
Every day our experienced team commits to our goal of building extremely professional machinery that ensures the best safety level for their users.
In order to reach this target we take care of the whole production process having the advice of certified bodies. Design teams are always focused on granting operators' safety along with competitiveness, reliability and productivity of our test benches.
All test units are fully interconnectable to a company's LAN network, driving workshops testing areas to the 4th industrial revolution, safe production processes completed by full data collection.
Together with our main product lines we offer customization of test benches to specific technical requests.
Specialized technical support on-site and TELESERVICE remote monitoring make after-sale services very efficient.
This general catalogue represents only part of our testing units designed in the last 20 years of activity. Contact our commercial network for further information: most likely your test target has already been achieved and we can share the best technical solution.
Besides, our website www.pcprogetti.it is kept updated with the latest products on offer.

Come to visit us, you'll be very WELCOME.

think'PC PROGETTI

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CE

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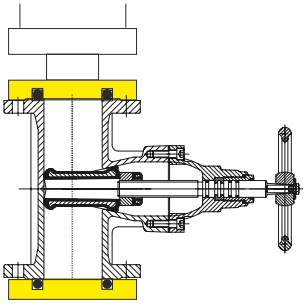
Clamping styles

CLAMP TYPE 1

Pressing:

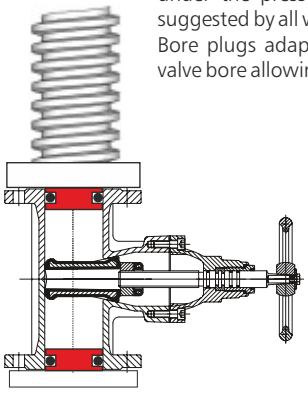
Proportionally controlled or ON/OFF switch.
Reaction against water hydrostatic force inside the valve is made by an hydraulic cylinder. It can be controlled by a proportional oil regulation loop, to the effective water pressure inside the valve or simply with a ON/OFF control to the total amount of strength needed.
Proportional press block allows the system to strongly reduce mechanical effort on valve body.
Limit of 10% minimum pressing power.



CLAMP TYPE 2

Inner radial:

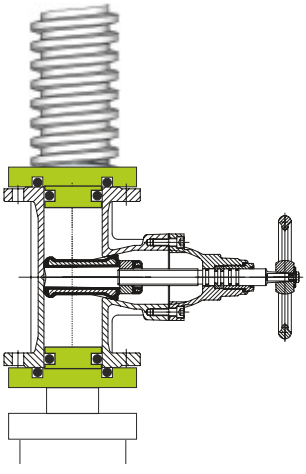
No external forces applied on valve body.
The tightness is made by a O-Ring seal that works on the inner side of valve body.
Also called "Bore Plugs" style.
This clamping style allows the valve to expand itself under the pressure test solicitation. This test style is suggested by all widespread test standards.
Bore plugs adaptors need a low roughness grade on valve bore allowing O-Rings to make the tightness.



CLAMP TYPE 3

Combined:

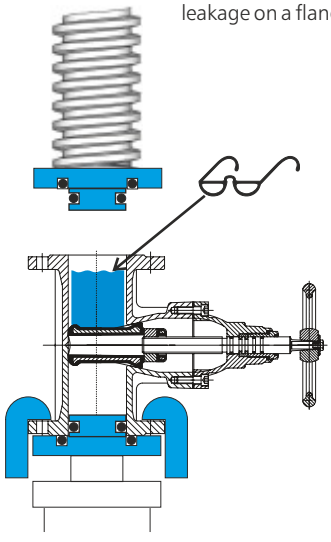
Suitable for all valve termination kinds.
It is a combination of style "1" and "2".
In one test rig there are both clamping possibilities.
Operators can select the best one according to the kind of valve under test.
Limit of 10% minimum pressing clamp.



CLAMP TYPE 4

Universal:

Visual leak test.
It has the same blocking ability of clamping style"3", plus claws added to one side.
This allows the user to make a visual check of seat leakage on a flanged valve not machined in the bore.



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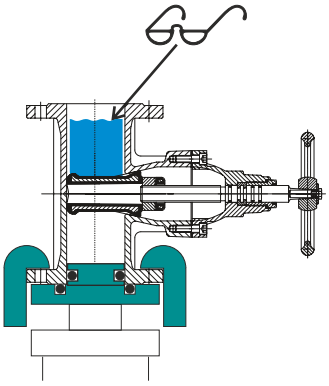
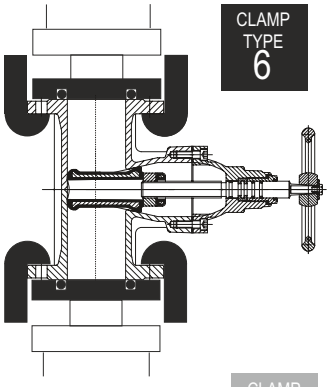


CLAMP TYPE 5

Claws only:

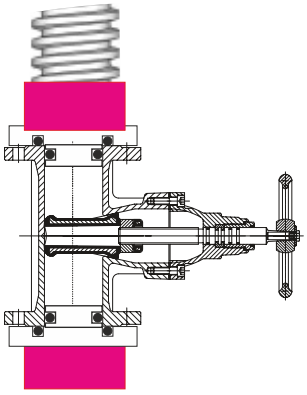
Visual leak test.
It has the same blocking ability of tightness type "4", without an upper side closing device.
This makes it the most suitable clamping style for 90° angle valves or PSV.
It can be used only for flanged valves.



CLAMP TYPE 6

Double Claws:

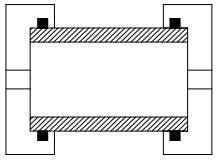
Both valve sides are clamped with claws clamping style .
It can be used only for flanged valves.



CLAMP TYPE 7

P.E.A. Adaptors:

Automatic proportional press clamping.
Useful for flanged surfaces with O-Ring seals, developing a natural accurate proportional press clamping applied to a clamping style Nr. 2 test benches or bolts clamping table.



CLAMP TYPE 8

Auto-Adaptive seals

Special automatic overpressure adaptive seals able to perform perfect tightness on pipes not perfectly round, with elliptical deformation up to 2% of nominal diameter. Especially suggested for pipes testing rigs.

Reaction power calculation table

The table below allows identification of standard nominal test benches reaction power according to valve size and pressure

	½"	1"	2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"	32"	34"	36"	40"	42"	48"	50"	52"	54"	56"	60"	66"	72"
cl 150	10	10	10	10	10	10	10	20	20	30	30	40	50	100	100	100	150	150	150	200	200	200	250	450	450	450	450	600	600	850	850	1200
cl 300	10	10	10	10	10	10	20	30	40	100	100	100	150	150	250	250	250	450	450	450	450	600	600	850	850	1200	1200	1200	1200	1600	1800	2500
cl 600	10	10	10	10	20	20	30	100	100	150	150	200	250	450	450	450	600	600	850	850	850	1200	1200	1600	1800	2500	2500	2500	2500	3500	4000	
cl 900	10	10	10	20	20	30	50	100	150	200	200	450	450	450	600	600	850	850	1200	1200	1200	1600	1800	2500	2500	2800	3500	3500	3500	4000		
cl 1500	10	10	10	20	40	40	100	150	200	450	450	450	600	850	850	1200	1200	1600	1600	1800	2500	2500	3500	3500	4000							
cl 2500	10	10	10	20	40	50	100	200	450	450	450	600	850	1200	1600	1600	2500	2500	2800	3500	3500	4000										
cl 4500	10	10	20	30	50	100	150	200	450	450	850	1200																				

	100	150	200	250	300	360	400	450	500	550	600	650	700	750	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
PN 10	30	30	30	30	30	30	30	30	30	50	50	50	100	100	100	100	150	200	200	250	250	450	450	450	450	600	600	600	600	750	750	850
PN 16	30	30	30	30	30	30	50	50	50	100	100	100	100	150	150	200	200	450	450	450	450	600	600	750	750	850	850	1200	1200	1200	1200	1600
PN 25	30	30	30	30	30	50	50	100	100	100	150	150	150	200	200	250	450	450	450	600	600	850	850	1200	1200	1200	1200	1600	1600	1800	1800	1800
PN 40	30	30	30	30	50	100	100	100	150	150	200	200	250	450	450	450	600	750	750	1200	1200	1600	1600	1600	1600	2000	2000	2500	2500	2800	2800	
PN 63	30	30	50	50	100	100	150	200	200	250	450	450	450	450	600	750	850	1200	1200	1600	1600	2000	2000	2500	2500	3500	3500	4000	4000			
PN 100	30	30	50	100	150	150	200	250	450	450	450	600	600	750	850	1200	1200	1800	1800	2500	2500	3500	3500	4000	4000							
PN 160	30	50	100	150	200	250	450	450	600	600	750	850	1200	1200	1600	1600	2000	2800	2800	4000	4000											
PN 200	30	100	100	150	250	450	450	600	600	750	850	1200	1200	1600	1600	2000	2500	3500	3500													
PN 250	100	100	150	250	450	450	600	600	750	1200	1200	1600	1600	1800	2000	2500	3500															

*Note: Showed data has been calculated considering Shell test pressure according to API-6D, nominal bore size, and bore plugs clamping style.
For further details please contact our technical department.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BO-2CV/4000

Horizontal test benches for valves

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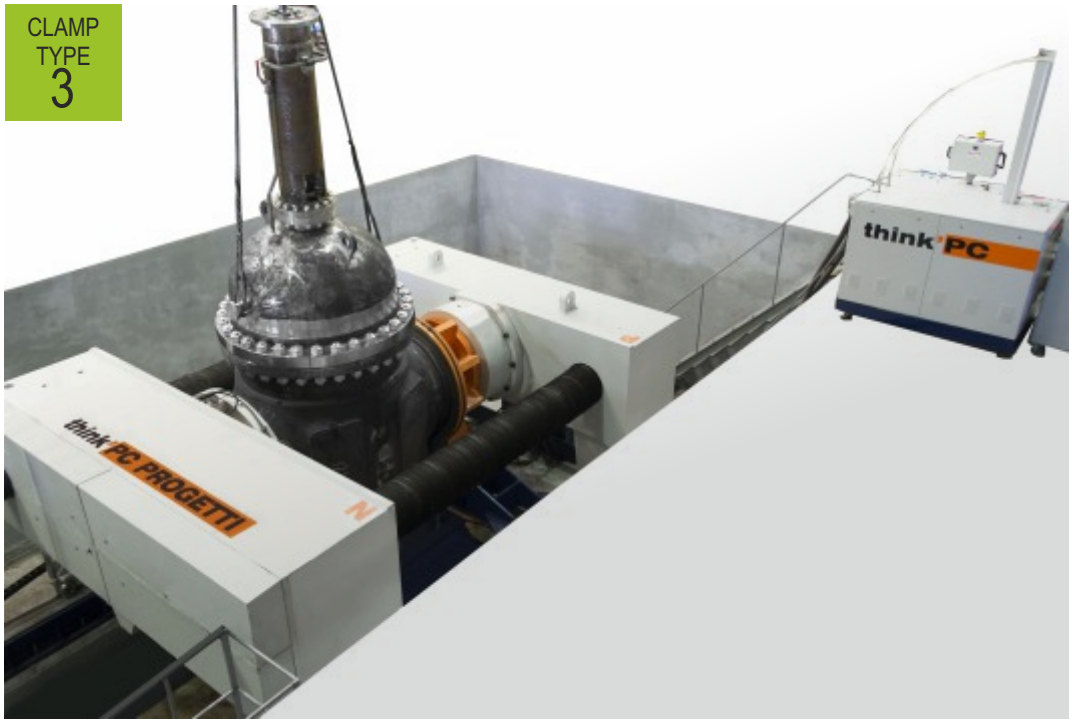
CE

BO-2CV/4000

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL + PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3



Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Horizontal test rig with COMBINED clamping style. Both styles are available: Bore plugs & Proportional press clamping. Max reaction power is 4000 TON. The basement is equipped with two special low profile lifters able to support valves up to 120 TON. The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body in case of "bore plugs" clamping style.
An hydraulic cylinder installed on the fixed bridge allows tests on flanged valves, using propor-tional modulation of clamping effort.
These prerogatives make it compliant to the most wide-spread international test standards. A water vessel is installed in the basement as water reservoir for test procedures. The rig is controlled by a **SKA-1000** / **SKM-1000** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**4000 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	3800 mm
Min valve length	:	0 mm
Columns inner clearance	:	2800 mm
Flow axes height	:	2500 mm
Basement water vessel	:	optional
Lifters	:	2x30 TON (standard asset)
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined
Dimensions (mech)	:	8050 (L) x 4330 (D) x 3245 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	20"	24"	26"	28"	30"	32"	34"	36"	40"	42"	48"	50"	52"	56"	60"	64"	68"	72"
ANSI-150	TON																		
ANSI-300	TON																		
ANSI-600	TON																		
ANSI-900	TON																		
ANSI-1500	TON																		
ANSI-2500	TON																		

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO-2V/2800

DOUBLE SCREWED COLUMNS
INNER RADIAL SEAL (BORE PLUGS)

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement, as water reservoir for test procedures.
The rig is controlled by a **SKA-1000** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

CLAMP TYPE 2

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**2800 TON** (See working limits table)
Max valve length	:	3600 mm
Min valve length	:	600 mm
Columns inner clearance	:	2400 mm
Flow axes height	:	2000 mm
Basement water vessel	:	optional
Lifters	:	2x30 TON
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	5900 (L) x 3560 (D) x 2950 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	20”	24”	26”	28”	30”	32”	34”	36”	40”	42”	48”	56”	60”
ANSI-150	TON													
ANSI-300	TON													
ANSI-600	TON													
ANSI-900	TON													
ANSI-1500	TON													
ANSI-2500	TON													

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO-2V/2500

DOUBLE SCREWED COLUMNS INNER RADIAL SEAL (BORE PLUGS)

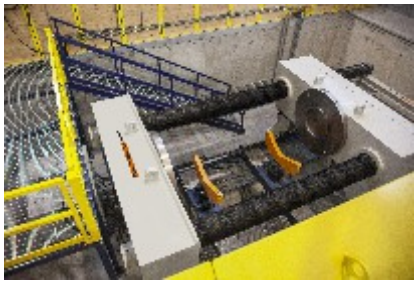
Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns
that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
The rig is controlled by a "**SKA** or **SKM class**" pressurization skid; to have more information about it please consult dedicated technical data sheets.
A water vessel is installed in the basement as water reservoir for test procedures.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

CLAMP TYPE 2

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Clamp 3 and Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**2500 TON** (See working limits table)
Max valve length	:	5400 mm
Min valve length	:	800 mm
Columns inner clearance	:	2500 mm
Flow axes height	:	2200 mm
Basement water vessel	:	optional
Lifters	:	2x30 TON
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	7800 (L) x 3610 (D) x 2910 (H) mm



*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	24"	26"	28"	30"	32"	34"	36"	40"	42"	48"	56"
ANSI-150	TON											
ANSI-300	TON											
ANSI-600	TON											
ANSI-900	TON											
ANSI-1500	TON											
ANSI-2500	TON											

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO-2V/1800L

DOUBLE SCREWED COLUMNS
INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body.
This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
The rig is controlled by a **SKA-1000** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Clamp 3 and Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**1800 TON** (See working limits table)
Max valve length	:	4000 mm
Min valve length	:	600 mm
Columns inner clearance	:	2400 mm
Flow axes height	:	2100 mm
Basement water vessel	:	2900 Liters ca.
Lifters	:	2x30 TON
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	6812 (L) x 3580 (D) x 2661 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	18”	20”	24”	26”	28”	30”	32”	34”	36”	40”	42”	48”	56”
ANSI-150	TON													
ANSI-300	TON													
ANSI-600	TON													
ANSI-900	TON													
ANSI-1500	TON													
ANSI-2500	TON													

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO-2V/1600
BO-2CV/1600

DOUBLE SCREWED COLUMNS INNER RADIAL SEAL (BORE PLUGS) OR COMBINED CLAMPING

Horizontal test rig with inner radial seal or combined clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
The rig is controlled by a "**SKM** or **SKA class**" pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

CLAMP TYPE 2 | CLAMP TYPE 3

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

		BO-2V/1600 2	BO-2CV/1600 3
Reaction force	:	**1600 TON** (See working limits table)	**1600 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	4000 mm	3200 mm
Min valve length	:	600 mm	0 mm
Columns inner clearance	:	2000 mm	2000 mm
Flow axes height	:	1900 mm	1900 mm
Basement water vessel	:	optional	opional
Lifters	:	2x20 TON	2x20 TON
Terminations allowed	:	BW, SW, RF, RJ	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial	Type 3 - Combined
Dimensions (mech)	:	6183 (L) x 3080 (D) x 2522 (H) mm	6183 (L) x 3080 (D) x 2522 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	16"	18"	20"	24"	26"	28"	30"	32"	34"	36"	40"	42"	48"
ANSI-150	TON													
ANSI-300	TON													
ANSI-600	TON													
ANSI-900	TON													
ANSI-1500	TON													
ANSI-2500	TON													

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D, increased by 80 mm in case of press clamping. For further details please contact our technical department.

think'PC PROGETTI

CE

BO-2V/1200
BO-2CV/1200

DOUBLE SCREWED COLUMNS INNER RADIAL SEAL (BORE PLUGS) OR COMBINED CLAMPING

CLAMP TYPE 2

CLAMP TYPE 3

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
The rig is controlled by a **SKA-500** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

		BO-2V/1200 2	BO-2CV/1200 3
Reaction force	:	**1200 TON** (See working limits table)	**1200 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	4550 mm	3500 mm
Min valve length	:	200 mm	0 mm
Columns inner clearance	:	1900 mm	1900 mm
Flow axes height	:	1750 mm	1750 mm
Lifters	:	2x20 TON	2x20 TON
Basement water vessel	:	2000 Liters ca.	2000 Liters ca.
Terminations allowed	:	BW, SW, RF, RJ	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial	Type 3 – Combined
Dimensions (mech)	:	5100 (L) x 2650 (D) x 1760 (H) mm	5100 (L) x 2650 (D) x 1760 (H) mm

Pit assembly option.

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”	26”	28”	30”	32”	34”	36”	40”
ANSI-150	TON																
ANSI-300	TON																
ANSI-600	TON																
ANSI-900	TON																
ANSI-1500	TON																
ANSI-2500	TON																

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO-2CV/750
BO-2CV/750L

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+ PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder can make press clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

	BO-2CV/750	BO-2CV/750L
Reaction force	: **750 TON** (10% minimum press clamping)	**750 TON** (10% minimum press clamping)
Max valve length	: 1800 mm	3000 mm
Min valve length	: 150 mm	150 mm
Columns inner clearance	: 1200 mm	1200 mm
Flow axes height	: 1200 mm	1200 mm
Basement water vessel	: 900 Liters	1200 Liters
Lifters	: 2 x 10 TON	2 x 10 TON
Termination allowed	: BW, SW, RF, RJ	BW, SW, RF, RJ
Clamping style	: Type 3 - Combined	Type 3 - Combined
Dimensions (mech)	: 4350 (L) x 2000 (D) x 2000 (H) mm	5550 (L) x 2000 (D) x 2000 (H) mm

Pressing cylinder with proportional control.

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”	26”	28”	30”
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												

*Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size and they have to be considered as reference only.
Press clamping style limits are based on bore size increased by 50 mm.
For more accurate information please contact our technical department or consult the instructions book delivered along the rig.

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CE

BO-2V/600
BO-2V/600L

DOUBLE SCREWED COLUMNS
INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

		BO-2V/600	BO-2V/600L
Reaction force	:	**600 TON** (See working limits table)	**600 TON** (See working limits table)
Max valve length	:	2000 mm	3200 mm
Min valve length	:	250 mm	250 mm
Columns inner clearance	:	1200 mm	1500 mm
Flow axes height	:	1500 mm	1500 mm
Basement water vessel	:	1100 liters	2500 liters
Lifters	:	1x10 TON	2x10 TON
Terminations allowed	:	BW, SW, RF, RJ	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial	Type 2 – Inner radial
Dimensions (mech)	:	3600 (L) x 2110 (D) x 2000 (H) mm	4900 (L) x 2260 (D) x 2600 (H) mm

Pit assembly option.

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”	26”	28”	30”
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												
ANSI-4500	TON												

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO-2CV/500

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+ PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder can make press clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**500 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	1300 mm
Min valve length	:	0 mm
Columns inner clearance	:	1060
Flow axes height	:	1150 mm from soil
Basement water vessel	:	470 Litres
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Pressing clamping with Proportional control.
Dimensions (mech)	:	3270 (L) x 1650 (D) x 1400 (H) mm (Mechanical structure)

Bunker asset option.

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

DN	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150 TON									
ANSI-300 TON									
ANSI-600 TON									
ANSI-900 TON									
ANSI-1500 TON									
ANSI-2500 TON									

*Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size and they have to be considered as reference only.
Press clamping style limits are based on bore size increased by 50 mm.
For more accurate information please contact our technical department or consult the instructions book delivered along the rig.

CE

BO-2V/450
BO-2V/450SH

DOUBLE SCREWED COLUMNS
INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards. A water vessel is installed in the basement as water reservoir for test procedures. The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

BO-2V/450SH

Note: Lifter trolleys and Safety perimetric protection available as option
Bunker or Pit assembly asset available as option.

Reaction force	:	**450 TON** (See working limits table)
Max valve length	:	2000 mm
Min valve length	:	0 mm
Columns inner clearance	:	1150 mm
Flow axes height	:	1150 mm
Basement water vessel	:	400 Liters
Screw bellows	:	See Option
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	3680 (L) x 1740 (D) x 1623 (H) mm (Mechanical stand only)

BO-2V/450SH

BO-2V/450

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									
ANSI-4500	TON									

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO-2V/250

DOUBLE SCREWED COLUMNS INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option. Bunker or Pit assembly asset available as option.

Reaction force	:	**250 TON** (See working limits table)
Max valve length	:	1300 mm
Min valve length	:	50 mm
Columns inner clearance	:	1100 mm
Flow axes height	:	1100 mm
Basement water vessel	:	400 Liters
Lifter	:	See Option
Screw dust protection	:	See Option
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	2650 (L) x 1310 (D) x 1130 (H) mm (Mechanical stand)

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	2”	3”	4”	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												
ANSI-4500	TON												

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO-2CV/250

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+ PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure the complete absence of external forces on valve body and an hydraulic cylinder can make press clamping with or without proportional control.
This prerogative makes it compliant to the most widespread international test standards.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**250 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	1500 mm
Min valve length	:	0 mm
Columns inner clearance	:	1100 mm
Flow axes height	:	950 mm from the ground
Basement water vessel	:	370 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Pressing clamping with Proportional control.
Dimensions (mech)	:	2880 (L) x 1310 (D) x 1400 (H) mm (Mechanical structure)

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	2”	3”	4”	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												

*Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size and they have to be considered as reference only.
Press clamping style limits are based on bore size increased by 50 mm.
For more accurate information please contact our technical department or consult the instructions book delivered along the rig.

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CE

BO-2V/150SH DOUBLE SCREWED COLUMNS INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**150 TON** (See working limits table)
Max valve length	:	1300 mm
Min valve length	:	50 mm
Columns inner clearance	:	900 mm
Flow axes height	:	990 mm
Basement water vessel	:	200 Liters
Lifter	:	Available as option
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	2545 (L) x 1110 (D) x 1170 (H) mm (Mechanical stand)

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	½"	1"	2"	3"	4"	5"	6"	8"	10"	12"
ANSI-150	TON										
ANSI-300	TON										
ANSI-600	TON										
ANSI-900	TON										
ANSI-1500	TON										
ANSI-2500	TON										
ANSI-4500	TON										

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO-2CV/150

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL + PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and hydraulic cylinder can make press clamping with or without proportional control.
This prerogative makes it compliant to the most widespread international test standards.
The rig is controlled by **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	150 TON
Max valve length	:	850 mm
Min valve length	:	150 mm
Columns inner clearance	:	600 mm
Flow axes height	:	950 mm
Basement water vessel	:	120 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Pressing clamping with Proportional control.
Dimensions (mech)	:	2860 (L) x 1135 (D) x 1140 (H) mm

*Operative limits 3 x 10 TON: DIN SHELL TEST (BORE PLUG CLAMPING)

	DN	3”	4”	6”	8”	10”	12”	14”	16”	18”	20”	22”	24”
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												

(*) Note: showed data has been calculated considering SHELL test pressure and nominal bore size ANSI for bore clamping.
For further details please contact our technical dept.

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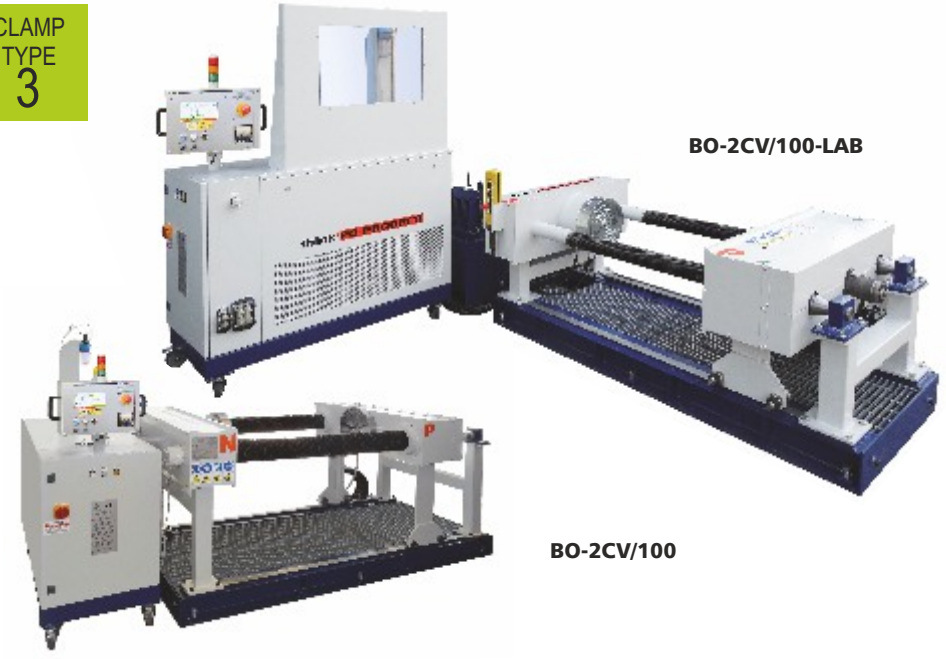
CE

BO-2CV/100
BO-2CV/100-LAB

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+ PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3



BO-2CV/100-LAB

BO-2CV/100

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder can make press clamping with or without proportional control.
This prerogative makes it compliant to the most widespread international test standards.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

		BO-2CV/100	BO-2CV/100-LAB
Reaction force	:	**100 TON** (See working limits table)	**100 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	1300 mm	1300 mm
Min valve length	:	0 mm	0 mm
Columns inner clearance	:	900 mm	900 mm
Flow axes height	:	1140 mm from the ground	650 mm from the ground
Basement water vessel	:	170 Liters	170 Liters
Terminations allowed	:	BW, SW, RF, RJ	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Press clamping with Proportional control.	Type 3 – Combined Inner radial clamping & Press clamping with Proportional control.
Dimensions (mech)	:	2600 (L) x 1290 (D) x 1400 (H) mm (Mechanical structure)	2600 (L) x 1290 (D) x 910 (H) mm (Mechanical structure)

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

DN	2”	3”	4”	6”	8”	10”	12”	14”	16”	18”
ANSI-150 TON										
ANSI-300 TON										
ANSI-600 TON										
ANSI-900 TON										
ANSI-1500 TON										
ANSI-2500 TON										

*Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size and they have to be considered as reference only.
Press clamping style limits are based on bore size increased by 50 mm.
For more accurate informations please contact our technical department or consult the instructions book delivered along the rig.

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CE

BO-C/90SH

PRESS CLAMPING W/ PROPORTIONAL PRESSING CONTROL

CLAMP TYPE 1

Horizontal test bench with proportional press clamping.
Pressing force is automatically set upon valve size and class and it is even proportionally modulated according to test rising pressure.
The valve is inserted into a fairing to ensure the best safety level for operators, on the bottom side there are auto centering "V" supports that let the operator center perfectly the valve flow axes with the test bench.
This rig shape makes it perfect for BUTTERFLY valves testing.
The test process components are integrated into the rig fairing. The test bench is controlled by a PLC and LCD for automatic test performing.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**90 TON** (See working limits table)
Max valve length	:	100 mm
Min valve length	:	40 mm
Max flange diameter	:	500 mm
Flow axes height	:	990 mm
Loading height from the ground	:	650 Liters
Terminations allowed	:	RF
Clamping style	:	Type 1 – Proportional press
Dimensions (mech)	:	1500 (L) x 700 (D) x 1300 (H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

DN		4"	6"	8"	10"	12"
ANSI-150	TON					
ANSI-300	TON					
ANSI-600	TON					
ANSI-900	TON					

(*)Note: Showed data has been calculated considering SHELL TEST pressure and nominal minimum bore size ANSI + 50mm (LUG Valves).
For further details please contact our technical department. Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified.

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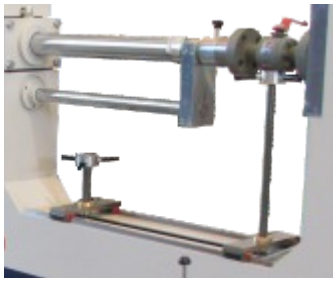
CE

BO-CC/40 PROPORTIONAL PRESS CLAMPING

Horizontal test rig with press clamping facilities.
This particular "C" shape allows the accommodation of valves completed by a "Control panel" that may increase valves shape dimension in large terms (i.e. Control valves)
An hydraulic cylinder makes press clamping with or without proportional control.
SKM or **SKA** class pressurization skid controls the rig.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

CLAMP TYPE 1



Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force min/max	:	**40 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	850 mm
Min valve length	:	0 mm
Flow axes height	:	1180 mm
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Press Clamping
Dimensions (mech)	:	3000 (L) x 300/700 (D) x 1350 (H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	½"	1"	2"	3"	4"	6"	8"	10"	12"
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									

*Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size and they have to be considered as reference only.
Press clamping style limits are based on bore size increased by 50 mm.
For more accurate information please contact our technical department or consult the instructions book delivered along the rig.

think' PC PROGETTI

CE

BO-3V/1

COMBINED CLAMPING, INNER RADIAL SEAL + P.E.A. ADAPTORS NR. 3 AXES MOVEMENT CONTROL

CLAMP TYPE 2

CLAMP TYPE 7

Horizontal test rig with clamping with "PEA adaptors" & claws clamping. Designed to facilitate 2way / 3way control valve assembly operations and for performing AIR low pressure leak test.
A three axes position control allows accurate seals plateau positioning according to product DB dimensions details.
A full set of digital flow-meter are installed to measure AIR leak flow for III, IV & VI valve leak class.
The test bench is fully interconnected to the main workshop server to receive working order and to transmit test reports in real time.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	1 TON
Max valve flange	:	220 mm
Max valve length (face to face)	:	350 mm
Min valve length (face to face)	:	130 mm
Terminations allowed	:	RF, RJ, BW, SW
Clamping styleType	:	2 + 7- combined with P.E.A.
Dimensions (mech)	:	3100 (L) x 720 (D) x 2650 (H)

*Operative limits for PROPORTIONAL PRESS CLAMPING : DIN shell test at 1,5 x PN

DN	10"	15"	20"	25"	40"	50"	65"	80"	100"
bar	4	4	4	4	4	4	4	4	4

(*) Note : Reference table only, calculated on nominal bore +30mm, to be corrected to actual O-ring size.

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CE

BO30-2CV/3000

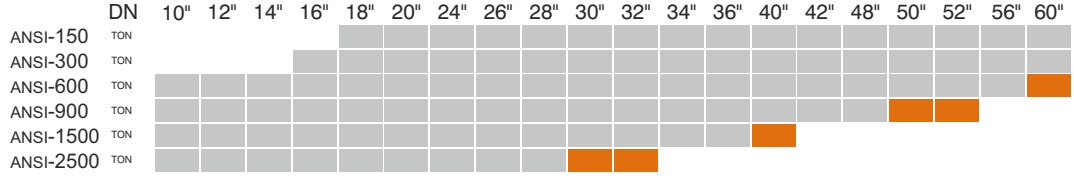
DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+ PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 3

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	3000 TON
Max valve length	:	3250 mm
Min valve length	:	600 mm
Clearance between columns	:	3000 mm @ 30° respect soil
Flow axes height	:	2400 mm
Terminations allowed	:	RF, BW, SW, RJ
Clamping style	:	Type 3 - combined
Dimensions (mech)	:	7400 (L) x 4573 (D) x 4090 (H)

✱Operative limits for INNER RADIAL SEAL & PROPORTIONAL PRESS CLAMPING: SHELL TEST API-6D



(*) Note: showed data has been calculated considering SHELL test pressure and nominal bore size ANSI for bore clamping.
For further details please contact our technical dept.

Horizontal test rig with COMBINED clamping style. Both styles are available: Bore plugs & Proportional press clamping.
Basement is equipped with two lifters trolleys, able to support valves up to 120ton.
The mobile reaction bridge is moved by two screwed columns (@ 30° from soil) that assure complete absence of external forces on valve body in case of "bore plugs" clamping style. An hydraulic cylinder installed on the fixed bridge allows tests on flanged valves, using proportional modulation of pressing clamp effort.
This prerogative makes it compliant to the most widespread international test standards.
It's a test bench designed to be inserted in testing pit surrounded by heavy armored bullet-proof safety perimeter, where all dangerous sources are confined into bunker protection, while the control unit is located outside dangerous area (bunker asset). The rig is controlled by SKA-1000 pressurization skid. The system is controlled by electronic PLC and LCD touch screen terminal.
A software procedures guides the operator through test procedure in a step by step sequence. Operators can repeat or jump single tests according to their necessities. A test report can be printed out as a ticket directly by the LCD terminal.
All test parameters can be inserted through LCD touch screen terminal.
The PLC can be connected to a Windows based PC for data recording and produces waveforms print outs, to quickly catalogue all products in a database and eventually scanning them by BAR-code or QR-code.
The rig could be completed with several options and accessories, please consult dedicated technical data sheets.
Please contact our sales office to have more information.

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CE

BO30-2V/850
BO30-2CV/850

with 30°column disposal

DOUBLE SCREWED COLUMNS, INNER RADIAL SEAL (BORE PLUGS) OR COMBINED CLAMPING

CLAMP TYPE 2 | CLAMP TYPE 3

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

30°

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body.
This prerogative makes it compliant to the most widespread international test standards. The rig is controlled by a **SKA-100** class pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

		BO30-2V/850 2	BO30-2CV/850 3
Reaction force	:	**850 TON** (See working limits table)	**850 TON** (See working limits table)
Max valve length	:	2890 mm	2200 mm
Min valve length	:	400 mm	400 mm
Columns inner clearance	:	1580 mm	1580 mm
Flow axes height	:	1230 mm	1230 mm
Lifters	:	2x10 TON	2x10 TON
Basement water vessel	:	1600 Liters	1600 Liters
Terminations allowed	:	BW, SW, RF, RJ	BW, SW, RF, RJ
Clamping style	:	Type 2 – Bore plugs	Type 3 – Combined
Dimensions (mech)	:	5140 (L) x 1974 (D) x 1984 (H) mm	5140 (L) x 1974 (D) x 1984 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”	26”	28”	30”	32”	34”	36”
ANSI-150	TON															
ANSI-300	TON															
ANSI-600	TON															
ANSI-900	TON															
ANSI-1500	TON															
ANSI-2500	TON															
ANSI-4500	TON															

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

Bridge stair option.

Cylinder aid for unloading of valve.

Lifter trolleys

CE

BO30-2CV/750

with 30°column disposal

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+ PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities. Designed to test control valves up to 32" according to FCI 70-2 and DIN EN 12266 standards. The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder makes press clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
The rig is controlled by a **SKA-100** pressurization skid with control valve asset devices.
Please contact our sales office to have more information.

Water jets sliding protection panels.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**750 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	2200 mm
Min valve length	:	0 mm
Columns inner clearance	:	1500
Flow axes height	:	1350 mm from soil
Basement water vessel	:	950 Liters
Lifters	:	2x10 TON
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Pressing clamping with Proportional control.
Dimensions (mech)	:	4630 (L) x 2300 (D) x 2170 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"
ANSI-150	TON													
ANSI-300	TON													
ANSI-600	TON													
ANSI-900	TON													
ANSI-1500	TON													
ANSI-2500	TON													

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 50mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

think'PC PROGETTI

CE

BO30-2CV/500
with 30°column disposal

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+ PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder can make press clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
Complete flow meter sets could be installed (see option) to perform seat leakage tests on control valves.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

30°

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**500 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	1760 mm
Min valve length	:	0 mm
Columns inner clearance	:	1160
Flow axes height	:	1000 mm
Basement water vessel	:	470 Liters
Lifters	:	2x5 TON
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Pressing clamping with Proportional control.
Dimensions (mech)	:	3441 (L) x 1817 (D) x 1980 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 50mm and they have to be considered as a reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

think'PC PROGETTI

CE

BO30-2CV/250L

with 30°column disposal

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+ PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder makes press clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
In the basement a water vessel is installed as water reservoir for test procedures.
Complete flow meter sets could be installed (see option) to perform seat leakage tests on control valves.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction Power	:	**250 TON** (10% minimum press clamping) (See working limits table)
Columns disposal	:	30°
Max valve length	:	1600 mm
Min valve length	:	0 mm
Columns clearance	:	1150 mm
Flow axes height	:	950 mm
Basement water vessel	:	400 Liters
Lifters	:	2x5 TON
Termination allowed	:	BW, SW, RF, RJ
Clamping styles	:	Inner radial & Pressing – Combined
Dimensions (mech)	:	3375 (L) x 1625 (D) x 1627 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”	26”	28”	30”	32”
ANSI-150	TON													
ANSI-300	TON													
ANSI-600	TON													
ANSI-900	TON													
ANSI-1500	TON													
ANSI-2500	TON													

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 50mm and they have to be considered as a reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

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CE

BO30-2CV/150SH DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL + PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and proportional press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder makes proportional press clamping with or without proportional control.
This prerogatives makes it compliant to the most widespread international test standards.
In the basement a water vessel is installed as a water reservoir for test procedures.
The rig is controlled by a **SKA-100** pressurization skid; to have a more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

30°

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	150 TON
Max valve length	:	1000 mm
Min valve length	:	0 mm
Columns clearance	:	700 mm
Flow axes height	:	950 mm
Basement water vessel	:	150 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 - combined
Dimensions (mech)	:	3055 (L) x 1425 (D) x 2040 (H)

*Operative limits for PRESSING CLAMPING & INNER RADIAL SEAL: API Shell test at 15 x PN

	DN	½"	1"	2"	3"	4"	5"	6"	8"	10"	12"
ANSI-150	TON										
ANSI-300	TON										
ANSI-600	TON										
ANSI-900	TON										
ANSI-1500	TON										
ANSI-2500	TON										

(*) Note: showed data has been calculated considering SHELL test pressure and nominal bore size ANSI for bore clamping.
For further details please contact our technical dept.

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CE

BO30-2CV/50P

with 30°column disposal

SINGLE SCREWED COLUMN + CYLINDER COMBINED CLAMPING AUTOMATIC OPENING FRONTAL PROTECTION CONTROL VALVE ASSET

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by one screwed column that assures complete absence of external forces on valves body and an hydraulic cylinder can make press clamping with or without proportional control.
This prerogative makes it compliant to the most widespread international test standards. A spacer of 600mm is placed on the fixed bridge side to accommodate large actuators.
The unit has a control panel for control of pneumatic / electrical actuators.
A water vessel is installed in the basement as water reservoir for test procedures. Test process is controlled by electronic PLC & LCD touch screen.
Test data can be printed out on thermal printer directly in the testing area or it can be downloaded with serial connection (standard) to Windows based PC with TestREC certification software. Operator safety is granted by a front protection with automatic opening.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**50 TON** (10% minimum press clamping) (see working limits table)
Max valve length	:	620 mm
Min valve length	:	0 mm
Column inner clearance	:	590 mm
Flow axes height	:	885 mm
Basement water vessel	:	100 Liters
Termination allowed	:	RF, RTJ, BW, SW
Clamping style	:	Type 3 - combined clamping
Clamping force control	:	On/off & proportional (option)
Reference standards	:	ISO, DIN, API, ANSI, ASTM, FCI, BS (Other on request).
Filling flow	:	50 Liters/min
Vacuum pump	:	36m /h (Option)
Standard flow meter	:	See table (other flowmeter asset on request)
Max pressure	:	700 bar (water) - 6 bar (AIR)
Pneumatic supply	:	7 bar @ 2000 Nl/min
Electric supply	:	3PH + T, 400V@50Hz, 5KW (other on request)
Dimensions (mech)	:	3670 (L) x 600 (D) x 1700 (H) mm

TEST KIND	Fluid	MEASURE TYPE	INSTRUMENT*
Cl. II to IV Seat leakage	WATER	Digital flow meters	Turbine flow meters: 300 - 3000 ml/min res. 2.5 cc 20L
Cl. IV Seat leakage	AIR	Digital flow meters	Mass flow meters: 1) 0,1 SLPM 2) 1 SLPM 3) 10 SLPM 4) 100 SLPM
Cl. V Seat leakage test	WATER	Water column digital flow meter	Digital water column Max height: 700 mm Resolution: 1mm (0.01 ml)
Cl. VI Seat leakage test	AIR	Bubbles counter	Digital bubbles counter: Max 3 bubbles/sec

*Other on request

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	½"	1"	2"	3"	4"	5"	6"	8"	10"	12"
ANSI-150	TON										
ANSI-300	TON										
ANSI-600	TON										
ANSI-900	TON										
ANSI-1500	TON										
ANSI-2500	TON										

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 30mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

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CE

BO30-2CV/40P

with 30°column disposal

SINGLE SCREWED COLUMN + CYLINDER COMBINED CLAMPING AUTOMATIC OPENING FRONTAL PROTECTION SHUT-OFF VALVE ASSET

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities. The mobile reaction bridge is moved by one screwed column that assures complete absence of external forces on valves body and an hydraulic cylinder can make press clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
Test process is controlled by electronic PLC & LCD touch screen. Test data can be printed out on thermal printer directly in the testing area or it can be downloaded with serial connection (standard) to Windows based PC with TestREC certification software.
Operator safety is granted by a front protection with automatic opening.

30°

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**40 TON** (10% minimum press clamping) (see working limits table)
Max valve length	:	650 mm
Min valve length	:	50 mm
Column inner clearance	:	460 mm
Flow axes height	:	830 mm
Basement water vessel	:	100 Liters
Terminations allowed	:	RF, RTJ, BW, SW
Clamping style	:	Type 3 - combined clamping
Clamping force control	:	On/off & proportional (option)
Filling flow	:	50 Liters/min
Vacuum pump	:	36m³/h (Option)
Standard flow meter	:	See table
Max pressure	:	700 - 1380 - 2000 - 4000 bar (water) 450 - 700 bar (gas)
Pneumatic supply	:	6.5 bar @ 1100 Nl/min
Electric supply	:	3PH + T, 400V@50Hz, 5KW (other on request)
Dimensions (mech)	:	2810 (L) x 600 (D) x 1670 (H) mm

TEST KIND	Fluid	MEASURE TYPE	INSTRUMENT*
Cl. V Seat leakage test	WATER	Water column digital flow meter	Digital water column Max height: 700 mm Resolution: 1mm (0.01 ml)
Cl. VI Seat leakage test	AIR	Bubbles counter	Digital bubbles counter: Max 3 bubbles/sec

*Other on request

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

DN		½"	1"	2"	3"	4"	5"	6"	8"
ANSI-150	TON								
ANSI-300	TON								
ANSI-600	TON								
ANSI-900	TON								
ANSI-1500	TON								
ANSI-2500	TON								
ANSI-4500	TON								

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 30mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

CE

BO30-1V/40SH
BO30-2CV/40SH

with 30°column disposal

BORE PLUGS OR COMBINED CLAMPING STYLES AVAILABLE. FULL PROTECTION SHIELD DOUBLE SIDE ACCESS

CLAMP TYPE 2 | CLAMP TYPE 3

Note: Safety perimetric protection available as option
Bunker or Pit assembly asset available as option.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

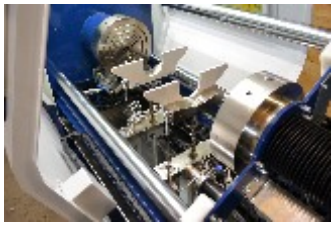
		BO30-1V/40SH 2	BO30-2CV/40SH 3
Reaction force	:	**40 TON** (see working limits table)	**40 TON** (10% minimum press clamping) (see working limits table)
Min - max valve length	:	50 - 680 mm	0 - 550 mm
Max valve height	:	900 mm	900 mm
Column inner clearance	:	550 mm	550 mm
Flow axes height	:	830 mm	830 mm
Basement water vessel	:	100 Liters	100 Liters
Termination allowed	:	RF, RTJ (bore machined), BW, SW	RF, RTJ, BW, SW
Clamping style	:	Type 2 – bore plugs	Type 3 – combined
Reference standards	:	ISO, DIN, API, ANSI, ASTM, FCI, BS (Other on request).	ISO, DIN, API, ANSI, ASTM, FCI, BS (Other on request).
Filling Flow	:	70 Liters/min	70 Liters/min
Vacuum pump	:	40m /h (Option)	40m /h (Option)
Standard flow meter	:	Digital Bubbles Counter & Digital water column	Digital Bubbles Counter & Digital water column
Max pressure	:	4000 bar (water) - 1050 bar (gas)	4000 bar (water) - 1050 bar (gas)
Pneumatic supply	:	6.5 bar @ 1100 Nl/min	6.5 bar @ 1100 Nl/min
Electric supply	:	3PH + T, 400V@50Hz, 5KW (other on request)	3PH + T, 400V@50Hz, 5KW (other on request)
Dimensions (mech)	:	3500 (L) x 1100 (D) x 1600 (H) mm	3500 (L) x 1100 (D) x 1600 (H) mm

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	½"	1"	2"	3"	4"	5"	6"	8"
ANSI-150	TON								
ANSI-300	TON								
ANSI-600	TON								
ANSI-900	TON								
ANSI-1500	TON								
ANSI-2500	TON								
ANSI-4500	TON								

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 30mm and they have to be considered as reference only.
For more accurate information please contact our technical department or consult the instructions book delivered along the rig.

Horizontal test benches available in two different clamping styles: "Bore plugs" or "combined". The mobile reaction bridge is moved by one screwed column that assures the complete absence of external forces on valve body during tests. This prerogative makes it compliant to the most widespread international test standards (bore plugs).
While a proportionally controlled hydraulic cylinder makes it suitable even for face-to-face sealing; it reduces mechanical effort on valve body to minimum terms.
A bullet-proof full sorrounding protection is foreseen to perform high pressure gas/water tests in very safe conditions. Door opening is conditioned by visual inspection rules (automatic pressure reducing before inspection) and a normal pressure discharge procedure. In the basement a water vessel is installed as water reservoir for test procedures. The test process is controlled by an electronic PLC & LCD touch screen along with a certification software TestREC® fully interconnected to a company LAN network. Full LAN test bench configuration & data collection is granted. Double control AUTO / MAN software is foreseen to give maximum flexibility to operators.



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CE

BO30-2CV/40SHH

with 30°column disposal

FULL PROTECTION SHIELD DOUBLE SIDE ACCESS INNER RADIAL SEAL (BORE PLUGS) OR COMBINED CLAMPING

CLAMP TYPE 3

30°

Control valves test bench, that belongs to BO30-2CV/SH rigs family. An armored full surrounding certified bullet-proof faring protection, allows to test valves having 2500 mm maximum height from flow axes.
It is available up to 100 TON reaction power.
Combined clamping is available: Bore plugs or proportional pressing.
It is equipped with a full asset of digital flowmeters for Air/Water leak flow measure, and positioner commands panel to control and test valve actuators, including movements hysteresis and performances.
The door opening is conditioned by visual inspection rules (automatic pressure is reduced before inspection) and normal pressure discharge procedures. In the basement, a water tank is installed as a water reservoir for test procedures.
The test process is controlled by an electronic PLC and LCD touch screen, along with a certification software TestREC, which is fully interconnected to the company LAN network.
Full LAN configuration and data collection is granted. Double control AUTO / MAN software is foreseen to give maximum flexibility to operators.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**40 TON**
Max valve length	:	1000 mm
Min valve length	:	200 mm
Flow axes height	:	2500 mm
Basement water vessel	:	150 Liters
Termination allowed	:	RF, RTJ, BW, SW
Clamping style	:	Type 3: combined
Reference standards	:	ISO, DIN, API, ANSI, ASTM, FCI, BS (Other on request)
Max pressure	:	250 bar (water) – 7 bar (air)
Pneumatic supply	:	7 bar @ 2000 Nl/min
Electric supply	:	3PH +N+T 380V@50Hz, 5.5KW
Dimensions (mech)	:	4030 (L) x 1200 (D) x 3475 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	½"	¾"	1"	2"	3"	4"	6"	8"
ANSI-150	TON								
ANSI-300	TON								
ANSI-600	TON								
ANSI-900	TON								
ANSI-1500	TON								
ANSI-2500	TON								

(*) Note: showed data has been calculated considering SHELL test pressure and nominal bore size ANSI for bore clamping.
For further details please contact our technical dept.

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CE

BO45-2CV/3000L

with 45°column disposal

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+ PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Test rig for valves with combined clamping style. Both pressing & bore plugs sealing styles are available. It has two reaction columns to allow maximum pipe length. The reaction bridge is moved by a hydraulic command. Valve loading is made vertically with an overhead travelling crane and final positioning is made by two lifters. In the basement there is a water vessel protected by a step resistant grid.
Clamping is controlled through a pressurization skid with proportional clamping to ensure minimum mechanical effort on valve casting. The rig is controlled by a **SKA-2000** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**3000 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	6400 mm
Min valve length	:	1750 mm
Columns inner clearance	:	2900 mm
Flow axes height	:	2800 mm
Basement water vessel	:	5000 Liters
Lifters	:	2x30 TON
Clamping style	:	Type 3: Combined
Dimensions (mech)	:	11500 (L) x 4500 (D) x 5500 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	20”	24”	26”	28”	30”	32”	34”	36”	40”	42”	48”	56”	60”	66”
ANSI-150	TON														
ANSI-300	TON														
ANSI-600	TON														
ANSI-900	TON														
ANSI-1500	TON														
ANSI-2500	TON														

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 80mm and they have to be considered as reference only.
For more accurate information please contact our technical department or consult the instructions book delivered along the rig.

CE

BO45-2CV/2000
with 45°column disposal

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+PROPORTIONAL PRESS CONTROL

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**2000 TON** (10% minimum press clamping) (see working limits table)
Max valve length	:	2900 mm
Min valve length	:	0 mm
Columns inner clearance	:	2100 mm
Flow axes height	:	2070 mm from the ground - 45° inclination from the ground
Basement water vessel	:	2000 Liters
Lifters	:	2x20 TON
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Press clamping with Proportional control.
Dimensions (mech)	:	6000 (L) x 3000 (D) x 3570 (H) mm (Mechanical structure)

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valves body and an hydraulic cylinder can make press clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
Complete flow meter sets could be installed (see option) to perform seat leakage tests on control valves.
The rig is controlled by a **SKA-1000** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

45°

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	12”	14”	16”	18”	20”	24”	26”	28”	30”	32”	34”	36”	40”	42”	48”
ANSI-150	TON															
ANSI-300	TON															
ANSI-600	TON															
ANSI-900	TON															
ANSI-1500	TON															
ANSI-2500	TON															

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 80mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

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CE

BO45-2V/1600
with 45°column disposal

DOUBLE SCREWED COLUMNS, INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
The rig is controlled by a **SKA-500** class pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.
Reaction bridges can be prepared for articulated cameras insertion and for seat inspections during testing.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**1600 TON**
Max valve length	:	2350 mm
Min valve length	:	200 mm
Columns inner clearance	:	1600 mm
Flow axes height	:	1900 mm
Basement water vessel	:	1500 Liters
Lifters	:	2x20 TON
Terminations allowed	:	RF, RJ, BW, SW
Clamping style	:	Type 2 – Bore Plugs
Dimensions (mech)	:	4790 (L) x 2290 (D) x 3125 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	12”	14”	16”	18”	20”	22”	24”	26”	28”	30”	32”	34”	36”	38”	40”	42”	44”	46”	48”
ANSI-150	TON																			
ANSI-300	TON																			
ANSI-600	TON																			
ANSI-900	TON																			
ANSI-1500	TON																			
ANSI-2500	TON																			

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO45-2V/850
with 45°column disposal

DOUBLE SCREWED COLUMNS
INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
The 45° columns disposal allows vertical loading of valves to be tested with a crane or with a horizontal loading fork lifter. Besides, the vertical loading height is reduced.
In the basement a water vessel is installed as water reservoir for test procedures.
The rig is controlled by a **SKM** or **SKA** class pressurization skid;
to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

45°

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**850 TON** (See working limits table)
Max valve length	:	3000 mm
Min valve length	:	200 mm
Columns inner clearance	:	1300 mm
Flow axes height	:	900 mm
Basement water vessel	:	1100 Liters
Lifter	:	See Option
Screw dust protection	:	See Option
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Reference standard	:	ISO, DIN, API, ANSI, ASTM, FCI, BS (Other on request).
Electric supply	:	3PH + T, 380V@50Hz, 7,5KW
Dimensions (mech)	:	4700 (L) x 2340 (D) x 2300 (H) mm

✱Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”	26”	28”	32”	34”	36”
ANSI-150	TON														
ANSI-300	TON														
ANSI-600	TON														
ANSI-900	TON														
ANSI-1500	TON														
ANSI-2500	TON														
ANSI-4500	TON														

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO45-2V/600
with 45°column disposal

DOUBLE SCREWED COLUMNS
INNER RADIAL SEAL

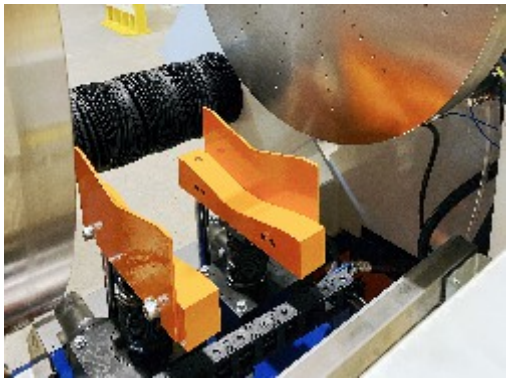
CLAMP TYPE 2

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
The 45° columns disposal, allows vertical loading of valves to be tested with a crane or with a horizontal loading fork lifter. Besides, the vertical loading height is reduced.
In the basement a water vessel is installed as water reservoir for test procedures.
The rig is controlled by a **SKA-100** or **SKM-100** class pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**600 TON** (See working limits table)
Max valve length	:	2500 mm
Min valve length	:	600 mm
Columns inner clearance	:	1300 mm
Flow axes height	:	1400 mm
Basement water vessel	:	1000 Liters
Lifter	:	See Option
Screw dust protection	:	See Option
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	4200 (L) x 2340 (D) x 2300 (H) mm



*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”	26”	28”	32”
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												
ANSI-4500	TON												

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

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CE

BO45-2CV/500
with 45°column disposal

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+ PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder can make press clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
In the basement a water vessel is installed as water reservoir for test procedures.
Complete flow meter sets could be installed (see option) to perform seat leakage tests on control valves.
The rig is controlled by a **SKA-500** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

45°

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**500 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	1760 mm
Min valve length	:	0 mm
Columns inner clearance	:	1160 mm
Flow axes height	:	1000 mm from the ground
Basement water vessel	:	470 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Press clamping with Proportional control.
Dimensions (mech)	:	3450 (L) x 2000 (D) x 2000 (H) mm (Mechanical structure)

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 50mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

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CE

BO45-2V/450

DOUBLE SCREWED COLUMNS
INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Horizontal test rig with bore plugs clamping style (inner radial seal).
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body.
This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed as a water reservoir for test procedures.
Complete flow meter sets could be included (option) to perform seat leakage tests on control valves.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**450 TON**
Max valve length	:	3000 mm
Min valve length	:	200 mm
Columns inner clearance	:	1100 mm
Flow axes height	:	1150 mm
Basement water vessel	:	400 Liters
Clamping style	:	Type 2: bore plugs
Dimensions (mech)	:	5215 (L) x 1590 (D) x 2095 (H) mm

*Operative limits: SHELL TEST API-6D - BORE PLUG & PROPORTIONAL PRESS CLAMPING

	DN	3”	4”	6”	8”	10”	12”	14”	16”	18”	20”	22”	24”
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												

(*) Note: showed data has been calculated considering SHELL test pressure and nominal bore size ANSI for bore clamping.
For further details please contact our technical dept.

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CE

BO45-2V/400
with 45°column disposal

DOUBLE SCREWED COLUMNS
COMBINED CLAMPING
INNER RADIAL SEAL + PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal + press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder can make press clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
A water vessel is installed in the basement as water reservoir for test procedures.
Complete flow meter sets could be installed (see option) to perform seat leakage tests on control valves.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

45°

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**400 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	2000 mm
Min valve length	:	0 mm
Columns inner clearance	:	1400 mm
Flow axes height	:	1320 mm from the ground
Basement water vessel	:	900 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Press clamping with Proportional control.
Dimensions (mech)	:	3450 (L) x 2000 (D) x 2000 (H) mm (Mechanical structure)

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 50mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

CE

BO45-2CV/250

with 45°column disposal

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and proportional press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder can make press clamping with or without proportional control.
This prerogative makes it compliant to the most widespread international test standards.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**250 TON** (10% minimum press clamping)
Max valve length	:	1750 mm
Min valve length	:	0 mm
Column inner clearance	:	1100 mm
Flow axes height	:	980 mm
Basement water vessel	:	400 Liters ca.
Lifter	:	Optional
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined clamping
Dimensions (mech)	:	3500 (L) x 1300 (D) x 1600 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

DN		1”	2”	3”	4”	6”	8”	10”	12”	14”	16”	18”	20”	22”	24”
ANSI-150	TON														
ANSI-300	TON														
ANSI-600	TON														
ANSI-900	TON														
ANSI-1500	TON														
ANSI-2500	TON														

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 50mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

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CE

BO45-2CV/100
with 45°column disposal

DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING INNER RADIAL SEAL+PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Horizontal test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by two screwed columns that assure complete absence of external forces on valve body and an hydraulic cylinder can make pressing clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
The rig is controlled by **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories.

45°

Note: Safety perimetric protection available as option
Bunker or Pit assembly asset available as option.

Reaction force	:	**100 TON** (10% minimum press clamping)
Max valve length	:	1300 mm
Min valve length	:	0 mm
Columns inner clearance	:	900 mm
Flow axes height	:	700 / 1000 mm
Basement water vessel	:	170 Liters ca.
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined
Dimensions (mech)	:	2250 (L) x 1016 (D) x 1200 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	1”	2”	3”	4”	6”	8”	10”	12”	14”	16”
ANSI-150	TON										
ANSI-300	TON										
ANSI-600	TON										
ANSI-900	TON										
ANSI-1500	TON										
ANSI-2500	TON										

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 50mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

BOT-2CSV/3000

Test benches for pipes

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BOT-2CSV/3000 DOUBLE SECTORIZED COLUMNS EXTERNAL RADIAL AUTOADAPTIVE SEALS

CLAMP TYPE 8

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Test rigs for pipes with clamping style Nr. 2 “Inner/outer seal” or Nr. 8 “overpressure auto-adaptive seals” for elliptical shape error. Reaction bridges are connected by sector columns that allow to set up maximum pipe length.
The fine adjustment on pipes is performed by a screwed column. The right side reaction bridge is able to run on the entire columns length to cover a wide range of pipes length measures, as described in the technical table below.
Pipe loading is performed by a crane from the top, while Nr. 4 hydraulic “V” shape lifters will support it for entire test and they are able to center the alignment on seals heads. The basement includes a water vessel with an evaporation limit device. The test bench does not need any foundations preparation. The rig is controlled by a SKA class pressurization skid up to 4000 Liters/min water filling ability. To have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, besides it is fully customizable according to clients preferences.

CE

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction power	:	**3000 TON**
Clamping style	:	Type 8 - External radial with Overpressure Auto-Adaptive seals
Max pipe length	:	12.500 mm
Max pipe diameter	:	1420 mm
Allowed elliptical error	:	1,5%
Flow axes height	:	2500 mm
Basement water vessel	:	25000 Liters
Max test pressure	:	700 / 1380 bar
Filling flow	:	4000 Liters/min
Pneumatic supply	:	7 bar @ 4000 Liters/min
Dimension (mech)	:	21000 (L) x 3500 (D) x 3700 (H) mm

DN (mm)	508	559	610	660	711	762	813	864	914	965	1016	1067	1118	1168	1219	1270	1321	1372	1422
bar	1380	1224	1028	876	756	658	578	512	457	410	370	336	306	280	257	237	219	203	189

DN (inch)	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56
PSI	20000	17746	14912	12706	10956	9544	8388	7423	6633	5948	5368	4869	4437	4059	3728	3436	3176	2946	2739

CE

BOT-2CV/2000

DOUBLE SCREWED COLUMN + CYLINDER
COMBINED CLAMPING INNER RADIAL SEAL+
PROPORTIONAL PRESS CONTROL

CLAMP TYPE 3

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Test rigs for pipes with clamping style Nr. 3 “Inner/outer seal” or “proportional press”. Reaction bridges are connected by screwed columns that allow to set up maximum pipe length. The left side reaction bridge is able to run on the entire columns length to cover a wide range of pipe length measures as described in the technical table below. Pipe loading is performed by crane from the top, while Nr. 2 hydraulic “V” shape lifters will support it for entire test and they are able to center the alignment on seals heads. The basement includes a water vessel with an evaporation limit device. The 45° columns orientation make loading procedures easy by requiring less lifting height to climb over the reaction columns. The test bench does not need any foundations. The rig is controlled by a SKA class pressurization skid up to 2000 Liters/min water filling ability. To have more information about it, please consult dedicated technical data sheets. The rig could be completed with several options and accessories, besides it is fully customizable according to clients preferences.

Reaction force	:	**2000 TON** (10% minimum press clamping)
Clamping style	:	Type 3 - Combined clamping
Max pipe length	:	5400 mm
Min pipe length	:	750 mm
Columns inner clearance	:	2710 mm
Max pipe diameter	:	2600 mm
Allowed elliptical error	:	0.5%
Flow axes height	:	2530 mm
Basement water vessel	:	3000 Liters
Electrical supply	:	3PH + T, 380V@50Hz, 12KW
Dimensions (mech)	:	10500 (L) x 3500 (D) x 4300 (H) mm

DN (mm)	1016	1118	1219	1321	1422	1524	1626	1727	1829	1930	2032	2134	2235	2337	2438	2540
bar	247	204	171	146	126	110	96	85	76	68	62	56	51	47	43	39

DN (inch)	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100
PSI	3579	2958	2485	2118	1826	1591	1398	1238	1105	991	895	812	739	677	621	573

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

CE

BOT-2CSV/1500

DOUBLE SECTORIZED COLUMNS EXTERNAL RADIAL SEALS OR AUTOADAPTIVE SEALS CLAMPING

CLAMP TYPE 2

CLAMP TYPE 8

48"

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Test bench for pipes with clamping style Nr. 2 "Inner/outer seal" or Nr. 8 "Overpressure auto-adaptive seals" for elliptical shape error. Reaction bridges are connected by sector columns, that allow to set up maximum pipe length. The fine adjustment on pipes is performed by screwed columns. The right side reaction bridge is able to run on the entire columns length to cover a wide range of pipes measures, as described in the technical table below. Pipe loading is performed by a crane from the top, while Nr. 2 hydraulic "V" shaped lifters will support it for the entire test. They are able to center the alignment on seals heads. The basement includes a water vessel with an evaporation limit device (optional) The test bench does not need any foundations. It is controlled by a SKA class pressurization skid up to 2000 L/min water filling ability. To have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, and it is fully customizable according to clients preferences.

Reaction power	:	**1500 TON**
Clamping style	:	Type 8 – External radial with overpressure auto-adaptive seals Type 2 - Inner/outer seal
Max pipe diameter	:	1219 (48") mm
Min pipe diameter	:	203 (8") mm
Max pipe length	:	12750 mm
Min pipe length	:	1000 mm
Allowed elliptical error	:	1,5%
Flow axes height	:	1750 mm
Basements water vessel	:	21000 mm
Max test pressure	:	6 / 800 bar
Filling flow	:	4000 Liters/min
Pneumatic supply	:	7 bar @ 2000 Liters/min
Dimensions (mech)	:	20605 (L) x 2915 (D) x 2885 (H)

✱Max Operative limits: SHELL TEST outer seal (upon adaptive heads model):

DN (mm)	219	273	324	355	406	457	508	609	711	762	812	914	1016	1166	1219
bar	800	800	800	800	800	800	740	514	377	329	289	228	185	167	128

DN (inch)	8⅝	10¾	12¾	14	16	18	20	24	28	30	32	36	40	42	48
PSI	11603	11603	11603	11603	11603	11603	10732	7455	5468	4772	4192	3307	2683	2422	1856

CE

BOT-2CSC/1200
BOT-2CSV/1200

DOUBLE SECTORIZED COLUMNS PROPORTIONAL PRESS CLAMPING OR INNER RADIAL SEAL (BORE PLUGS)

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

CLAMP TYPE 1

CLAMP TYPE 2

Test rigs for pipes with clamping style Nr. 1 “proportional press”. Reaction bridges are connected by sectors columns, that allow to set up maximum pipe length. The fine adjustment on pipes is performed by the pressing cylinder stroke.
The right side reaction bridge is able to run on entire columns length to cover a wide range of pipe length measures, as described in the technical table below. Pipe loading is performed by a crane from the top, while
Nr. 4 hydraulic “Lunette” lifters will support it for the entire test and they are able to center the alignment on seals heads, and “keep” it to avoid its bending during tests. The basement includes a water vessel with an evaporation limit device. The test bench does not need any foundations.
It is controlled by a SKA class pressurization skid with up to 1000 Liters/min water filling ability.
To have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, besides it is fully customizable according to client preferences.

		BOT-2CSC/1200 1	BOT-2CSV/1200 2
Reaction power	:	**1200 TON**	**1200 TON**
Clamping style	:	Type 1 - Proportional pressing	Type 2 -External radial seals
Max pipe length	:	12500 mm	7100 mm
Min pipe length	:	2000 mm	1500 mm
Max pipe diameter	:	1250 mm	1020 mm
Allowed elliptical error	:	0.5%	0.5%
Flow axes height	:	1770 mm	1550 mm
Basement water vessel	:	14000 Liters	6000 Liters
Max test pressure	:	700 - 1050 bar	700 - 1050 bar
Filling flow	:	1000 Liters/min	500 Liters/min
Pneumatic supply	:	6.5 bar @ 1500 Nl/min Dry air not lubricated	6.5 bar @ 1100 Nl/min Dry air not lubricated
Dimensions (mech)	:	15000 (L) x 2720 (D) x 2650 (H) mm	9700 (L) x 2500 (D) x 2180 (H) mm

1

DN (mm)	114	141	168	219	273	324	356	406	457	508	559	610	660	711	762	813	864	914	965	1016	1067	1118	1168	1219
bar	1380	1380	1380	1380	1380	1380	1209	926	731	592	490	411	351	302	263	231	205	183	164	148	134	122	112	103

2

DN (mm)	114	141	168	219	273	324	356	406	457	508	559	610	660	711	762	813	864	914	965	1016
bar	1380	1380	1380	1380	1026	729	604	463	366	296	245	206	175	151	132	116	102	91	82	74

CE

BOT45-2V/250 DOUBLE SCREWED COLUMNS, EXTERNAL RADIAL SEALS OR AUTOADAPTIVE SEALS CLAMPING

CLAMP TYPE 2

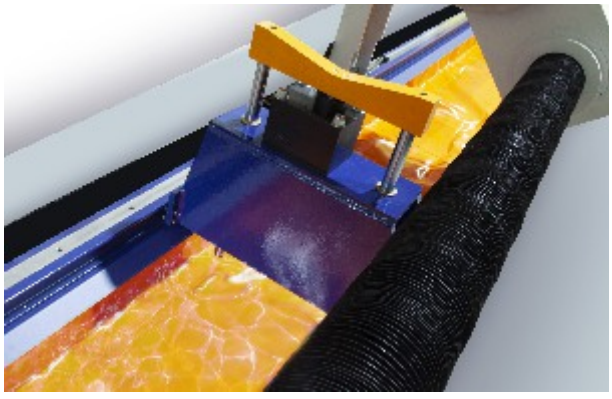
CLAMP TYPE 8

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Test rigs for pipes with clamping style Nr. 2 “Inner/outer seal” or Nr. 8 “overpressure auto-adaptive seals” for elliptical shape error. Reaction bridges are connected by 2 screwed columns that allow to set up maximum pipe length. The right side reaction bridge is able to run on the entire columns length to cover a wide range of pipe length measures as described in the technical table below. Pipe loading is performed by a crane from the top or horizontally, while Nr. 2 hydraulic “V” shaped lifters will support it for the entire test and they are able to center the alignment on seals heads. The basement includes a water vessel with an evaporation limit device (on request). The test bench does not need any foundations. The rig is controlled by a SKA class pressurization skid with 120 Liters/min water filling ability. To have more information about it, please consult dedicated technical data sheets. The rig could be completed with several options and accessories and it is fully customizable according to client preferences.

Reaction force	:	**250 TON** (See working limits table)
Max pipe length	:	7200 mm
Min pipe length	:	2500 mm
Max pipe diameter	:	700 mm
Flow axes height	:	1200 mm
Basement water vessel	:	Max 3000 Liters
Lifter	:	See Option
Screw dust protection	:	See Option
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Bore Plugs Type 8 – Auto adaptive seals
Dimensions (mech)	:	8850 (L) x 1580 (D) x 2000 (H) mm



DN (mm)	114	141	168	219	273	324	356	406	457	508	559	610	660
bar	1380	1276	899	531	342	243	201	154	122	99	82	69	58

DN (inch)	4	5	6	8	10	12	14	16	18	20	22	24	26
PSI	20000	18503	13042	7696	4957	3521	2921	2237	1767	1432	1183	994	847

BV-PMC/2000

Vertical test benches for valves

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CE

BV-PMC/2000

MOBILE BRIDGE
PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Vertical test bench with mobile bridge and proportional press clamping. Press force is controlled automatically and proportionally to rising pressure inside the valve during tests. Doing so the resulting mechanical load on valve body is reduced to minimal terms. The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next piece. In the basement there is a water vessel for spilled water and an external water tank as water reservoir could be added as an option. The use of an open castle as upper side reaction structure allows the user to make a visual inspection of the valve seat during tests. The rig is controlled by a **SKA-500** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric garrison available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**2000 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	1350 mm
Min valve length	:	300 mm
Column inner clearance	:	2830 mm
Loading height	:	1500 mm
Bridge run	:	2680 mm
Basement water vessel	:	500 Liters
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional press clamping
Dimensions (mech)	:	3800 (L) x 4150 (D) x 5328 (H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	700	800	900	1000	1200	1400	1600	1800	2000	2200	2400
PN-6	TON											
PN-10	TON											
PN-16	TON											
PN-25	TON											
PN-40	TON											
PN-63	TON											

*Note: Showed data has been calculated considering SHELL TEST pressure and nominal minimum bore size DIN + 80mm.
For further details please contact our technical department. Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified.

CE

BV-PMC/900

MOBILE BRIDGE
PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Vertical test rig with controlled pressing clamp; press force is controlled automatically according to water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test.
The rig is controlled by a **SKA-500** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**900 TON** (10% minimum press clamping)
Working stand	:	1 (2 on request)
Max valve length	:	1000 mm
Min valve length	:	250 mm
Column inner clearance	:	2400 mm
Loading height	:	1100 mm
Bridge run	:	1600 mm
Basement water vessel	:	350 Liters ca.
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional press clamping
Clamping force control	:	Automatic within 10..100% interval, proportional to hydrostatic pressure inside the valve under test. Regulation can be controlled by the operator.
Dimensions (mech)	:	3260 (L) x 3100 (D) x 5200 (H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	400	500	600	700	800	900	1000	1200	1400	1600	1800	2000
PN-10	TON												
PN-16	TON												
PN-25	TON												
PN-40	TON												
PN-64	TON												
PN-100	TON												

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 100 mm.
For further details please contact our technical department.

CE

BV-PMC/800

MOBILE BRIDGE
PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Vertical test rig with controlled pressing clamp; press force is controlled automatically according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**800 TON** (10% minimum press clamping)
Working stand	:	1 (2 on request)
Max valve length	:	1500 mm
Min valve length	:	200 mm
Column inner clearance	:	1040 mm
Loading height	:	1050 mm
Bridge run	:	800 mm
Basement water vessel	:	350 Liters ca.
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional press clamping
Clamping force control	:	Automatic within 10..100% interval, proportional to hydrostatic pressure inside the valve under test. Regulation can be controlled by the operator
Dimensions (mech)	:	1800 (L) x 2060 (D) x 4500 (H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	2”	3”	4”	6”	8”	10”	12”	14”	16”	18”	20”	22”	24”
ANSI-150	TON													
ANSI-300	TON													
ANSI-600	TON													
ANSI-900	TON													
ANSI-1500	TON													
ANSI-2500	TON													
ANSI-4500	TON													

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 60 mm.
For further details please contact our technical department.

CE

BV-PMC/650W

MOBILE BRIDGE
PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**650 TON** (10% minimum press clamping) (See working limits table)
Working stands	:	1 (2 on request)
Allowed sizes	:	DN700/DN2000, PN16/PN64
Max valve length	:	750 mm
Min valve length	:	250 mm
Column inner clearance	:	2400 mm
Loading height	:	1000 mm
Bridge run	:	1600 mm
Basement water vessel	:	220 Liters (Only for spilled water, not for storage)
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional press clamping.
Clamping force control	:	Automatic within 10..100% interval, proportional to the hydrostatic pressure inside the valve under test.
Dimensions (mech)	:	3100 (L) x 3260 (D) x 3500 (H) mm

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

DN	700	800	900	1000	1200	1300	1400	1500	1600	1800	2000
PN-10 TON											
PN-16 TON											
PN-25 TON											
PN-40 TON											
PN-64 TON											

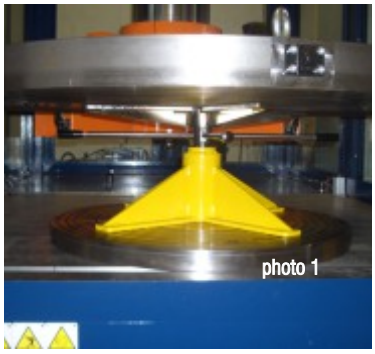
*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 80 mm.
For further details please contact our technical department.

CE

BV-PMC/650

MOBILE BRIDGE
PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1



Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**650 TON** (10% minimum press clamping) (See working limits table)
Working stands	:	1 (2 on request)
Allowed sizes	:	DN700/DN2000, PN16/PN64
Max valve length	:	1250 mm
Min valve length	:	200 mm
Column inner clearance	:	1600 mm
Loading height	:	1000 mm
Bridge run	:	1300 mm
Basement water vessel	:	220 Liters (Only for spilled water not for storage)
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional press clamping.
Clamping force control	:	Automatic within 10..100% interval, proportional to the hydrostatic pressure inside the valve under test.
Protection against water jet	:	Armoured glass on 3 side according En1063 + front door on request
Dimensions (mech)	:	2350 (L) x 2900 (D) x 4240 (H) mm

✱Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	12”	14”	16”	18”	20”	24”	26”	28”	30”	32”	36”	40”	42”	48”
ANSI-150	TON														
ANSI-300	TON														
ANSI-600	TON														
ANSI-900	TON														
ANSI-1500	TON														
ANSI-2500	TON														

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 50mm.
For further details please contact our technical department.

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test.
The rig has an armoured glass protection on 3 sides according EN1063. The front side can be closed by a mobile horizontal sliding gate (optional).
Upper side crociera is equipped with a fast connection (photo 2) for sealing plateau, and a mounting tool is included as well (photo 1).
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicate technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

CE

BV-PMV/600

SINGLE SCREWED COLUMN
INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Vertical test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by one screwed column that assures complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
In the basement a water vessel could be installed as water reservoir for test procedures (see Option).
The rig is controlled by a **SKM-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**600 TON** (See working limits table)
Max valve length	:	3000 mm
Min valve length	:	700 mm
Column inner clearance	:	1720 mm
Loading height	:	floor ground
Basement water vessel	:	300 Liters ca.
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Reference standard	:	ISO, DIN, API, ANSI, ASTM, FCI, BS (Other on request).
Electric supply	:	3PH + T, 380V@50Hz, 10KW
Dimensions (mech)	:	2420 (L) x 3250 (D) x 7350 (H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	10”	12”	14”	16”	18”	20”	24”	28”	30”	32”	36”
ANSI-150	TON											
ANSI-300	TON											
ANSI-600	TON											
ANSI-900	TON											
ANSI-1500	TON											
ANSI-2500	TON											

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

CE

BV-PMC/550

MOBILE BRIDGE
PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**550 TON** (10% minimum press clamping) (See working limits table)
Working stands	:	1 (2 on request)
Max valve length	:	1500 mm
Min valve length	:	700 mm
Column inner clearance	:	2200 mm
Loading height	:	1000 mm
Bridge run	:	1250 mm
Basement water vessel	:	220 Liters (only for spilled water)
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional press clamping.
Clamping force control	:	Automatic within 10..100% interval, proportional to the hydrostatic pressure inside the valve under test. Regulation can be controlled by the operator.
Dimensions (mech)	:	3020 (L) x 2200 (D) x 4200 (H) mm

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	600	700	800	900	1000	1200	1300	1400	1500	1600	1800	2000
PN-10	TON												
PN-16	TON												
PN-25	TON												
PN-40	TON												
PN-64	TON												

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 80mm.
For further details please contact our technical department.

CE

BV-PMC/500S

MOBILE BRIDGE
PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**500 TON** (10% minimum press clamping) (see working limits table)
Working stands	:	1 (2 on request)
Max valve length	:	700 mm
Min valve length	:	200 mm
Column inner clearance	:	1000 mm
Loading height	:	1000 mm
Bridge run	:	850 mm
Basement water vessel	:	150 Liters
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional Compression (flange surface).
Clamping force control	:	Automatic within 10..100% interval, proportional to the hydrostatic pressure inside the valve under test.
Protection against water jet	:	Armoured steel on 3 side + mobile front door
Dimensions (mech)	:	1460 (L) x 2360 (D) x 2600 (H) mm

✱Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

DN	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150 TON									
ANSI-300 TON									
ANSI-600 TON									
ANSI-900 TON									
ANSI-1500 TON									
ANSI-2500 TON									

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 50mm.
For further details please contact our technical department.

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test. The rig has an armoured steel protection on 3 sides. The front side can be closed by a mobile horizontal sliding gate (optional). A marking machine is connected directly to control PLC to mark serial numbers on tested pieces.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

CE

BV-PMC/350

MOBILE BRIDGE
PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**350 TON** (10% minimum press clamping) (See working limits table)
Working stands	:	1 (2 on request)
Max valve length	:	1280 mm
Min valve length	:	180 mm
Column inner clearance	:	1620 mm
Loading height	:	900 mm
Bridge run	:	1280 mm
Basement water vessel	:	200 Liters
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional press clamping.
Clamping force control	:	Automatic within 10..100% interval, proportional to the hydrostatic pressure inside the valve under test.
Dimensions (mech)	:	2140 (L) x 1700 (D) x 4050 (H) mm

✱Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	300	350	400	450	500	600	700	800	900	1000	1200
PN-10	TON											
PN-16	TON											
PN-25	TON											
PN-40	TON											

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 50mm.
For further details please contact our technical department.

CE

BV-PMV/350

SINGLE SCREWED COLUMN
INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Vertical test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by one screwed column that assures complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
In the basement a water vessel could be installed as water reservoir for test procedures (see Option).
The rig is controlled by a **SKM-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**350 TON** (See working limits table)
Working stands	:	1 (2 on request)
Max valve length	:	1200 mm
Min valve length	:	0 mm
Column inner clearance	:	650 mm
Loading height	:	1000 mm
Bridge run	:	1280 mm
Basement water vessel	:	300 Liters ca.
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	1140 (L) x 1880 (D) x 4100 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	2”	3”	4”	5”	6”	8”	10”	12”
ANSI-150	TON								
ANSI-300	TON								
ANSI-600	TON								
ANSI-900	TON								
ANSI-1500	TON								
ANSI-2500	TON								

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

CE

BV-PMV/200

MOBILE BRIDGE,
BORE PLUGS CLAMPING

CLAMP TYPE 2

Vertical test rig with bore plugs clamping style. The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves.
In the basement there is a water vessel and an external water vessel could be added as option.
The use of a open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test. The rig is controlled by SKA/SKM classes pressurization skids; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**200 TON**
Workig stand	:	1 (2 on request)
Max valve length	:	1300 mm
Min valve length	:	200 mm
Column inner clearance	:	1100 mm
Loading height	:	1010 mm
Bridge run	:	900 mm
Basement water vessel	:	350 Liters ca.
Terminations allowed	:	RF, RJ, BW, SW (Bore machined)
Clamping style	:	Type 2 – Bore Plugs
Dimensions (mech)	:	1610 (L) x 2440 (D) x 3450/4150 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	2”	4”	6”	8”	10”	12”	14”	16”	18”	20”	22”	24”
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												
ANSI-4500	TON												

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

CE

BV-PMC/200-2

DOUBLE LOADING PLACES
MOBILE BRIDGE
PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves.
A water vessel is installed in the basement as water reservoir for test procedures.
This rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**200 TON** (10% minimum press clamping) (See working limits table)
Working stands	:	2
Max valve length	:	970 mm
Min valve length	:	100 mm
Column inner clearance	:	1200 mm
Loading height	:	900 mm
Bridge run	:	900 mm
Basement water vessel	:	200 Liters
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional press clamping.
Clamping force control	:	Automatic within 10..100% interval, proportional to the hydrostatic pressure inside the valve under test.
Dimensions (mech)	:	1600 (L) x 1900 (D) x 3000 (H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	100	150	200	250	300	350	400	450	500	600	700	800	900
PN-10	TON													
PN-16	TON													
PN-20	TON													
PN-25	TON													
PN-40	TON													
PN-64	TON													
PN-100	TON													

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 50mm.
For further details please contact our technical department.

CE

BV-PMC/200SP

MOBILE BRIDGE PROPORTIONAL PRESS CLAMPING WITH AUTOMATIC VALVE MARKING MICRO-PERCUSSION

CLAMP TYPE 1

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**200 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	450 mm
Min valve length	:	50mm
Column inner clearance	:	650 mm
Loading height	:	900mm
Bridge run	:	600 mm
Basement water vessel	:	100 Liters
Terminations allowed	:	RF, RTJ
Clamping style	:	Type: 1 - Proportional press clamping
Clamping force control	:	Automatic within 10..100% interval, proportional to hydrostatic pressure inside the valve under test.
Protection against water jet	:	Armored steel 3 side + mobile front door
Dimension (mech)	:	1100 (L) x 1325 (D) x 2020 (H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	4”	6”	8”	10”	12”	14”	16”	18”	20”
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 50mm.
For further details please contact our technical department.

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test. The rig has a armoured steel protection on 3 sides. The front side can be closed by a mobile horizontal sliding gate (optional). A marking machine is connected diretly to control PLC to mark serial numbers on tested pieces. The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

CE

BV-PMC/200SH MOBILE BRIDGE PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**200 TON** (10% minimum press clamping) (See working limits table)
Working stands	:	1
Max valve length	:	950 mm
Min valve length	:	250 mm
Column inner clearance	:	1200 mm
Loading height	:	850 mm
Bridge run	:	1000 mm
Basement water vessel	:	220 Liters (Only for spilled water not for storage)
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional press clamping.
Clamping force control	:	Automatic within 10..100% interval, proportional to the hydrostatic pressure inside the valve under test.
Dimensions (mech)	:	1680 (L) x 2665 (D) x 3250 (H) mm

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test.
A full surrounding FAIRING protection (Roof included) ensures best operators protection.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

✱Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”	26”	28”	30”
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												

(*)Note: Showed data has been calculated considering SHELL test pressure and nominal bore size added by 50mm in case of press clamping.
For further details please contact our technical department.

CE

BV-PMC/200LP MOBILE BRIDGE PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

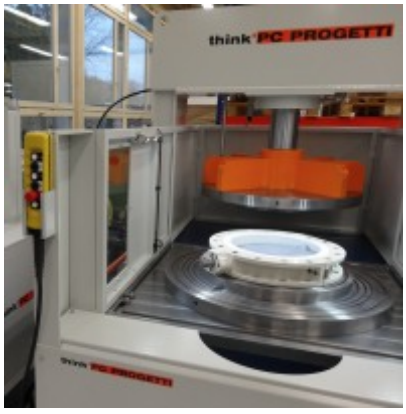
Reaction force	:	**200 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	450 mm
Min valve length	:	50 mm
Column inner clearance	:	1290 mm
Loading height	:	850 mm
Bridge run	:	1100 mm
Basement water vessel	:	200 Liters
Termination allowed	:	RF, RTJ
Clamping style	:	Type 1 – Proportional press clamping
Clamping force control	:	Automatic within 10..100% interval, proportional to hydrostatic pressure inside the valve under test.
Protection against water jet	:	Armored steel 3 side + mobile front door
Dimensions (mech)	:	1730 (L) x 2450 (D) x 2380 (H) mm

✱Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

DN		6”	8”	10”	12”	14”	16”	18”	20”	22”	24”	26”	28”	30”	32”
ANSI-150	TON														
ANSI-300	TON														
ANSI-600	TON														
ANSI-900	TON														
ANSI-1500	TON														
ANSI-2500	TON														
ANSI-4500	TON														

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 50mm.
For further details please contact our technical department.

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test. The rig has an armoured steel protection on 3 sides. The front side can be closed by a mobile vertical sliding gate (optional).
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.



CE

BV-PMC/100-2P DOUBLE LOADING PLACES MOBILE BRIDGE PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms. The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**100 TON** (10% minimum press clamping) (See working limits table)
Working stands	:	2
Max valve length	:	650 mm
Min valve length	:	150 mm
Column inner clearance	:	800 mm
Loading height	:	750 mm
Bridge run	:	900 mm
Basement water vessel	:	220 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 1 – Proportional press clamping.
Clamping force control	:	Automatic within 10..100% interval, proportional to the hydrostatic pressure inside the valve under test.
Dimensions (mech)	:	1360 (L) x 2842 (D) x 2770 (H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									
ANSI-4500	TON									

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 50mm.
For further details please contact our technical department.

CE

BV-PMC/100S

MOBILE BRIDGE
PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**100 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	470 mm
Min valve length	:	0 mm
Min-max DN	:	DN 2" – DN 24"
Column inner clearance	:	910 mm
Loading height	:	910 mm
Bridge run	:	800 mm
Basement water vessel	:	300 Liters
Termination allowed	:	RF, RTJ, Wafer
Clamping style	:	Type: 1 - Proportional pres clamping
Clamping force control	:	Automatic within 10..100% interval, proportional to hydrostatic pressure inside the valve under test.
Protection against water jet	:	available on request.
Dimension (mech)	:	1260 (L) x 1320 (D) x 2110 (H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	4"	6"	8"	10"	12"	14"	16"	18"	20"
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 50 mm.
For further details please contact our technical department.

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option.
The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

CE

BV-PMC/100SP MOBILE BRIDGE PROPORTIONAL PRESS CLAMPING

CLAMP TYPE 1

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**100 TON** (10% minimum press clamping) (see working limits table)
Working stands	:	1 (2 on request)
Max valve length	:	900 mm
Min valve length	:	100 mm
Column inner clearance	:	1000 mm
Loading height	:	800 mm
Bridge run	:	600 mm
Basement water vessel	:	120 Liters
Terminations allowed	:	RF, RJ
Clamping style	:	Type 1 – Proportional Compression (flange surface).
Clamping force control	:	Automatic within 10..100% interval, proportional to the hydrostatic pressure inside the valve under test.
Protection against water jet	:	Armoured steel on 3 side + mobile front door
Dimensions (mech)	:	1460 (L) x 2360 (D) x 2600 (H) mm

✱Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	DN	4”	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150	TON										
ANSI-300	TON										
ANSI-600	TON										
ANSI-900	TON										
ANSI-1500	TON										
ANSI-2500	TON										

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size increased by 50mm.
For further details please contact our technical department.

Vertical test rig with controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms.
The mobile upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The use of an open castle as an upper side reaction structure allows the user to make visual inspections of valve seats during the test. The rig has an armoured steel protection on 3 sides. The front side can be closed by a mobile horizontal sliding gate (optional). A marking machine is connected directly to control PLC to mark serial numbers on tested pieces.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

CE

BV-PMMV/100SH MOBILE BRIDGE UNIVERSAL CLAMPING

CLAMP TYPE 4

Vertical test rig with universal clamping system; all valve termination kinds straight shape & 90° shape can be clamped.
In case of press clamping the force is automatically controlled proportionally to the water pressure inside the valve and the result load is reduced to minimal terms. The mobile upper side bridge allows vertical loading of the valve with a crane. In the basement there is a water vessel and an external water tank could be added as option.
A full surrounding armored fairing system ensures operator safety during tests. Process equipment can be self-contained with a control console only or any standard pressurization skid can be added (SKA class).

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**100 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	700 mm
Min valve length	:	0 mm
Min-max DN	:	DN ½" – DN 12" (on request up to 24")
Max valve flange diameter	:	530 mm
Loading height	:	910 mm
Basement water vessel	:	200 Liters
Termination allowed	:	ALL
Clamping style	:	Type: 4 - Universal
Press Clamping force control	:	Automatic within 10..100% interval, proportional to hydrostatic pressure inside the valve under test.
Dimension (mech)	:	1420 (L) x 2000 (D) x 3110 (H) mm

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	½"	1"	2"	3"	4"	5"	6"	8"
ANSI-150	TON								
ANSI-300	TON								
ANSI-600	TON								
ANSI-900	TON								
ANSI-1500	TON								
ANSI-2500	TON								

(*)Note: Showed data has been calculated considering SHELL test pressure and nominal bore size added by 50mm in case of press clamping.
For further details please contact our technical department.

CE

BV-PMCV/100H MOBILE BRIDGE COMBINED CLAMPING

CLAMP TYPE 3

Vertical test rig with combined clamping style: inner radial seal and proportional press clamping facilities.
The upper side screw assures complete absence of external forces on valves body and an hydraulic cylinder can make press clamping with or without proportional control.
This prerogative makes it compliant to the most widespread international test standards.
An upper side bridge allows vertical loading of valves and the possibility to have double working stands; while the first is working, the second could be prepared for the next valves. In the basement there is a water vessel and an external water vessel could be added as option. The rig is controlled by a SKA class pressurization skid;
to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**100 TON** (10% minimum press clamping)
Workig stand	:	1 (2 on request)
Max valve length	:	3500 mm
Min valve length	:	200 mm
Column inner clearance	:	1300 mm
Loading height	:	700 mm
Bridge run	:	900 mm
Basement water vessel	:	250 Liters ca.
Terminations allowed	:	RF, RJ, BW, SW
Clamping style	:	Type 3 – Bore Plugs & proportional press clamping
Dimensions (mech)	:	1740 (L) x 2090 (D) x 5300/8500 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	1”	2”	3”	4”	6”	8”	10”	12”	14”	16”	18”
ANSI-150	TON											
ANSI-300	TON											
ANSI-600	TON											
ANSI-900	TON											
ANSI-1500	TON											
ANSI-2500	TON											

(*)Note: Showed data has been calculated considering SHELL test pressure and nominal bore size added by 50mm in case of press clamping.
For further details please contact our technical department.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

CE

BV-1V/200

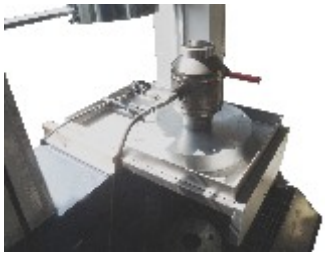
SINGLE SCREWED COLUMN INNER RADIAL SEAL (BORE PLUGS)

CLAMP TYPE 2

Vertical test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by one screwed column that assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
In the basement a water vessel could be installed as water reservoir for test procedures (see Option).
The rig is controlled by a **SKM-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**200 TON** (See working limits table)
Max valve length	:	1000 mm
Min valve length	:	100 mm
Column inner clearance	:	900 mm
Loading height	:	800 mm
Basement water vessel	:	200 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	1340 (L) x 1790 (D) x 3240 (H) mm



Loading tray available as option

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	2”	4”	6”	8”	10”	12”	14”	16”	20”
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

CE

BV-CV/100SH

COMBINED CLAMPING INNER RADIAL SEAL + PROPORTIONAL PRESSING

CLAMP TYPE 3

Vertical test rig with combined clamping style: inner radial seal and press clamping facilities.
The mobile reaction bridge is moved by a screwed column that assures complete absence of external forces on valves body and an hydraulic cylinder can make press clamping with or without proportional control. This prerogative makes it compliant to the most widespread international test standards.
In the basement there is a water vessel and an external water vessel could be added as option.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**100 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	1000 mm
Min valve length	:	0 mm
Column inner clearance	:	900 mm
Loading height	:	900 mm
Basement water vessel	:	300 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Pressing clamping with Proportional control.
Dimensions (mech)	:	1340 (L) x 1690 (D) x 2604/3520 (H) mm

Loading tray available as option

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	2”	4”	6”	8”	10”	12”	14”	16”	18”
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 50mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

CE

BV-C/30SH PRESS CLAMPING W/PROPORTIONAL CONTROL

Vertical test bench with proportional press clamping.
Valve clamping is performed by an hydraulic cylinder with proportional control.
Operator safety is granted by full surrounding protection guarding with bullet-proof crystal to offer a perfect visual inspection.
The opening of the fence is ruled by a control system to reduce operator risk exposure to minimum terms.
The test process is controlled by an automatic asset.

CLAMP TYPE 1

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**30 TON** (See working limits table)
Max valve length	:	150 mm
Min valve length	:	0 mm
Clearance between column	:	600 mm
Loading height from soil	:	1280 mm
Terminations allowed	:	RF, RTJ, Screwed port, MP, HP, UHP
Clamping style	:	Type 1 – Proportional press clamping
Dimensions (mech)	:	1394 (L) x 880 (D) x 2061(H) mm

*Working limits for SHELL TEST with PROPORTIONAL PRESS CLAMPING

	¼"	3/8"	9/16"
10K PSI			
15K PSI			
20K PSI			
30K PSI			
60K PSI			

*Note: Showed data has been calculated considering SHELLTEST pressure For further details please contact our technical department.
Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified.

CE

BV-CCV/20P

COMBINED CLAMPING INNER RADIAL SEAL + PROPORTIONAL PRESSING AND AUTOMATIC VALVE ACTUATOR

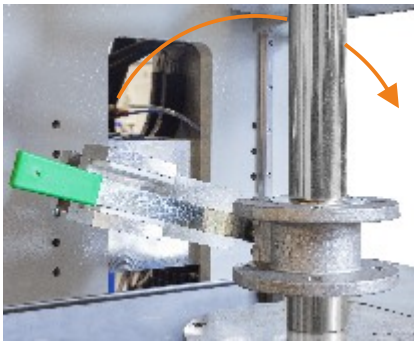
CLAMP TYPE 3

Fully automatic vertical test rig with bore plugs or controlled pressing clamp; press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms. It has a 90° hydraulic actuator that lets the valve move according to a test sequence.
The high resolution differential pressure drop leak detection system is used to measure leak rates according to DIN 12266-1 for GAS leakages.
A mobile loading plate makes loading operations simple.
A mobile vertical protection assures operators safety in case of seal blowing.
An electronic PLC controls all test operations, and the operator has a LCD touch screen monitor to set up test sequences.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**20 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	505 mm
Min valve length	:	30 mm
Loading height	:	900 mm
Water vessel	:	External 220 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined
Clamping force control	:	Automatic within 10..100% interval, proportional to the hydrostatic pressure inside the valve under test. Regulation can be controlled by the operator.
Hydraulic test	:	H_2O w/oil 5% , 3-40bar (200 bar, 650 bar, as option)
Pneumatic test	:	0,5 – 6 bar
Pneumatic supply	:	6.5 bar @ 1100 Nl/min - Dry air not lubricated
Electric supply	:	3PH + T, 400V@50Hz, 5KW
Dimensions (mech)	:	1550 (L) x 1050 (D) x 2250 (H) mm



*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	50	100	125	150	200
PN-10	TON					
PN-16	TON					
PN-25	TON					
PN-40	TON					
PN-64	TON					
PN-100	TON					

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 30mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

CE

BV-CCV/15P

COMBINED CLAMPING INNER RADIAL SEAL + PROPORTIONAL PRESSING

CLAMP TYPE 3

Vertical test rig with an automatic test sequence. Combined clamping style: proportional press clamping and inner radial seals.
A protection against water jets surrounds the valve under test and it is automatically controlled with pneumatic cylinders.
A PLC controls test sequences that can be configured by a LCD touch screen.
Full automatic test cycles with leakage flan measuring (water fail) are available.

Note: Safety perimetric protection available as option
Bunker or Pit assembly asset available as option.

Reaction force	:	**15 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	590 mm
Min valve length	:	50mm
Loading height	:	900mm
Water vessel	:	300 Liters external
Terminations allowed	:	BW, SW, RF, RTJ
Clamping style	:	Type: 3 – Combined: Proportional pressing & inner radial seal (bore plugs)
Clamping force control	:	Automatic within 10..100% interval, proportional to hydrostatic pressure inside the valve under test.
Reference standards	:	ISO, DIN, API, ANSI, ASTM, FCI, BS (Other on request).
Hydraulic test	:	H2O 700 bar MAX
Pneumatic test	:	0.5 bar – 6 bar
Pneumatic supply	:	6.5 bar @ 1100 Nl/min - Dry air not lubricated
Electric supply	:	3PH + T, 380V@50Hz, 5KW
Dimension (mech)	:	730 (L) x 1010 (D) x 2340 (H) mm

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	1”	2”	3”	4”	6”	8”
ANSI-150	TON						
ANSI-300	TON						
ANSI-600	TON						
ANSI-900	TON						
ANSI-1500	TON						
ANSI-2500	TON						

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 30mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

CE

BV-M/7.5SH

CLAWS CLAMPING WITH FULL PERIMETER PROTECTION

CLAMP TYPE 5

Test rig with claws clamping.
Test on RF or RTJ valves can be executed in real working conditions.
The clamping is of hydraulic on/off type.
This prerogative makes it suitable for PSV valves, angular flow valves, vessels, fitings ecc.
The auto-centering automatic movement of claws is hydraulically or pneumatically controlled (as option).
Perimeter protection fairing will ensure operator safety; double access side is foreseen to allow operators to the inner area (Front and Rear).
The rig is controlled by **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	7.5 TON
Max flange length	:	Ø450 mm
Min flange length	:	Ø200 mm
Seat lift measure contact less	:	0-150 mm ± 0,15%
Tilting angle	:	FIXED (non tiltable)
Basement water vessel	:	200 Liters
Termination allowed	:	RF, RJ
Clamping style	:	Type 5 – Hydraulic cylinder w/claws
Clamping force control	:	On/Off type
Range	:	10..100%
Eletrical supply	:	3PH + N+T 380V@50Hz 3KW
Dimensions (mech)	:	850 (L) x 850 (D) x 1590 (H) mm

** working limits with SET POINT ADJUSTMENT

DN	250"	280"
bar	6	6

(*) Note: indicated values has been calculated for shell test and with API-6D nominal minimum bore size +30 mm and they have to be considered as reference only. For further details please contact our technical dept.

BOR-M/350

Tiltable test benches for valves


think'PC PROGETTI

CE

BOR-2V/600
BOR-2CV/600

BORE PLUGS OR COMBINED CLAMPING W/90° TILT ABILITY

CLAMP TYPE 2

CLAMP TYPE 3

Horizontal test rig with “bore plug” clamping or “combined clamping”. The mobile reaction bridge is moved by one screwed column that assures complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards. Besides, valve flow axes can be tilted by 90° according to the test position wanted by the customer.
In the basement a water vessel is installed as water reservoir for test procedures.
Test process is controlled by a **SKA-100** pressurization SKID. See dedicated literatures for further details.

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

		BOR-2V/600 2	BOR-2CV/600 3
Reaction force	:	**600 TON** (10% minimum press clamping) (See working limits table)	**600 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	2500 mm	1900 mm
Min valve length	:	200 mm	0 mm
Columns inner clearance	:	1400 mm	1400 mm
Loading height	:	Vertical 1380 mm / Horizontal 1200 mm	Vertical 1380 mm / Horizontal 1200 mm
Rotation angle	:	90°	90°
Basement water vessel	:	1000 Liters	1000 Liters
Termination allowed	:	RF, RTJ, BW, SW	RF, RTJ, BW, SW
Clamping style	:	Type 2 – Bore Plugs	Type 3 - Combined
Dimensions (mech) horizontal	:	2700 (L) x 4300 (D) x 1520 (H) mm	2700 (L) x 4300 (D) x 1520 (H) mm
Dimensions (mech) vertical	:	2700 (L) x 4300 (D) x 4800 (H) mm	2700 (L) x 4300 (D) x 4800 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	6”	8”	10”	12”	14”	16”	18”	20”	24”	26”	28”	30”	32”
ANSI-150	TON													
ANSI-300	TON													
ANSI-600	TON													
ANSI-900	TON													
ANSI-1500	TON													
ANSI-2500	TON													

*Note: Showed data has been calculated considering API SHELL test pressure and nominal bore size.
For further details please contact our technical department.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

CE

BOR-M/350

DOUBLE CLAWS CLAMPING WHIT TILTABLE BRIDGE

CLAMP TYPE 6

Horizontal test rig with double claws clamping and tiltable on a side. The right hand-side is movable to adjust to valves length.
Claws clamping can be performed only on flanged valves.
It allows testing of mechanical stress on flange neck during test performance.
Besides, the clamping force has no influence on valve seat behaviour during test, due to the absence of external forces applied. The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force	:	**350 TON** (See working limits table)
Max valve length	:	2200 mm
Min valve length	:	500 mm
Max flange diameter	:	1200 mm
Min flange diameter	:	120 mm
Max flange thickness	:	150 mm
Min flange thickness	:	0 mm
Flow axes height	:	1180 mm
Basement water vessel	:	1000 Liters ca.
Terminations allowed	:	RF, RJ
Clamping style	:	Type 6 – Double claws clamping
Dimensions (mech)	:	4460 (L) x 2300 (D) x 1930 (H) mm

*Working limits for SHELL TEST with CLAWS CLAMPING:

	DN	4”	6”	8”	10”	12”	14”	16”	18”	20”	22”	24”	26”	28”	30”
ANSI-150	TON														
ANSI-300	TON														
ANSI-600	TON														
ANSI-900	TON														
ANSI-1500	TON														
ANSI-2500	TON														
ANSI-4500	TON														

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size added by 80mm in case of press clamping.
For further details please contact our technical department.

CE

BOR-1V/250
BOR-CV/250

BORE PLUGS OR COMBINED CLAMPING W/90° TILT ABILITY

CLAMP TYPE 2

CLAMP TYPE 3

Horizontal test rig with “bore plug” clamping or “combined clamping”. The mobile reaction bridge is moved by one screwed column that assures the complete absence of external forces on valve body with bore plugs clamping, or perform a “face to face” sealing using proportional press clamping style. This prerogative makes it compliant to the most widespread international test standards. Besides, valve flow axes can be tilted by 90° according to the test position preferred by customer. In the basement a water vessel is installed as water reservoir for test procedures.
The test process is controlled by a **SKA-100** pressurization SKID.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

		BOR-1V/250 2	BOR-CV/250 3
Reaction force	:	**250 TON** (See working limits table)	**250 TON** (See working limits table)
Max valve length	:	1500 mm	1300 mm
Min valve length	:	200 mm	0 mm
Column inner clearance	:	1100 mm	1100 mm
Flow axes height in horizontal position	:	720 mm	720 mm
Loading height in vertical position	:	1020 mm	1220 mm
Basement water vessel	:	300 Liters	300 Liters
Terminations allowed	:	BW, SW, RF, RTJ	BW, SW, RF, RTJ
Clamping style	:	Type 2 – Bore Plugs	Type 3 – Combined
Dimensions (mech) horizontal	:	2120 (L) x 3970 (D) x 970 (H) mm	2120 (L) x 2900 (D) x 970 (H) mm
Dimensions (mech) vertical	:	2120 (L) x 2900 (D) x 3300/4100 (H) mm	2120 (L) x 2900 (D) x 3300/4100 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

DN		4”	6”	8”	10”	12”	14”	16”	18”	20”	20”	24”
ANSI-150	TON											
ANSI-300	TON											
ANSI-600	TON											
ANSI-900	TON											
ANSI-1500	TON											
ANSI-2500	TON											

*Note: Showed data has been calculated considering SHELL TEST pressure and nominal minimum bore size ANSI + 50mm.
For further details please contact our technical department. Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified.

BOR-1V/200

BORE PLUGS CLAMPING W/90° TILTABILITY

CLAMP TYPE 2

Note: Safety perimetral protection available on request

Reaction force	:	**200 TON** (See working limits table)
Max valve length	:	1000 mm
Min valve length	:	100 mm
Column inner clearance	:	900 mm
Loading height	:	Horizontal 720 mm / Vertical 1020 mm
Rotation angle	:	90°
Basement water vessel	:	600 Liters
Termination allowed	:	RF, RTJ, BW, SW
Clamping style	:	Type 2 – Bore Plugs
Dimensions (mech)	:	Horizontal : 1920 (L) x 3500 (D) x 970 (H) mm Vertical : 1920 (L) x 2500 (D) x 2820 / 3700 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	4”	6”	8”	10”	12”	14”	16”	18”	20”
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									

*Note: Showed data has been calculated considering API SHELL test pressure and nominal bore size.
For further details please contact our technical office.

Horizontal test rig with bore plug clamping style: inner radial seal facilities. The mobile reaction bridge is moved by one screwed column that assures the complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards. Besides, valve flow axes can be tilted by 90° according to the test position preferred by the customer.
A water vessel is installed in the basement as water reservoir for test procedures.
The test process is controlled by **SKA-100** pressurization SKID. See dedicated literatures for further details.

CE

BOR-M/200
BOR-M/60

DOUBLE CLAWS CLAMPING WHIT TILTABLE BRIDGE

CLAMP TYPE 6

Horizontal test rig with double claws clamping and tiltable on a side. The right hand-side is movable to adjust to valves length.
Claws clamping can be performed only on flanged valves.
It allows testing of mechanical stress on flange neck during test performance.
Besides, the clamping force has no influence on valve seat behaviour during test, due to the absence of external forces applied. The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

		BOR-M/200	BOR-M/60
Reaction force	:	**200 TON**	**60 TON**
Max valve length	:	1700 mm	1350 mm
Min valve length	:	100 mm	100 mm
Max flange diameter	:	700 mm	550 mm
Min flange diameter	:	120 mm	120 mm
Max flange thickness	:	100 mm	80 mm
Min flange thickness	:	0 mm	0 mm
Flow axes height	:	1070 mm	950 mm
Basement water vessel	:	800 Liters ca.	300 Liters ca.
Terminations allowed	:	RF, RJ	RF, RJ
Clamping style	:	Type 6 – Double claws clamping	Type 6 – Double claws clamping
Dimensions (mech)	:	3500 (L) x 1800 (D) x 1625 (H) mm	3100 (L) x 1600 (D) x 1500 (H) mm

BOR-M/200

*Working limits for SHELL TEST with CLAWS CLAMPING:

	DN	4”	6”	8”	10”	12”	14”	16”	18”	20”	22”	24”
ANSI-150	TON											
ANSI-300	TON											
ANSI-600	TON											
ANSI-900	TON											
ANSI-1500	TON											
ANSI-2500	TON											
ANSI-4500	TON											

BOR-M/60

*Working limits for SHELL TEST with CLAWS CLAMPING:

	DN	1”	2”	3”	4”	6”	8”	10”	12”	14”	16”
ANSI-150	TON										
ANSI-300	TON										
ANSI-600	TON										
ANSI-900	TON										
ANSI-1500	TON										
ANSI-2500	TON										
ANSI-4500	TON										

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size added by 50mm in case of press clamping.
For further details please contact our technical department.

BVR-M/90

CLAWS CLAMPING WITH PROTECTION PERIMETER AND 90° TILTABILITY

CLAMP TYPE 5

Test rig with claws clamping.
Test of RF or RTJ valves could be executed in real working conditions.
The clamping is of hydraulic on/off type.
This prerogative makes it suitable for PSV valves and for flow valves.
The auto-centering movement of claws and tilting is hydraulically or pneumatically controlled (as option).
In the basement there is a vessel for test fluid and additional vessels are available.
The tilting ability of clamping plateau improves product loading capability, and allows the bullet-proof protection fairing to ensure best operator safety level.
It can be controlled by a standard pressurization skid; in the picture you can see mod. **SKMM-100-G**

Note: Test bench can be equipped with pressure vacuum safety valve (PVSV) testing facilities as option

Reaction force	:	**90 TON** (See working limits table)
Flange max diameter	:	530 / 650 / 860mm
Flange min diameter	:	90 mm
Seat lift measure contact less	:	0-150 mm ± 0,15 %
Flange thickness max	:	140mm
Tilting angle	:	0° +90°
Basement water vessel	:	200 Liters
Terminations allowed	:	RF, RJ
Clamping style	:	Type 5 - Hydraulic cylinder w/claws
Clamping force control	:	On/Off type
Range	:	10..100%
Reference standard	:	ISO, API, ASME, ASTM
Dimensions (mech)	:	1465(L) x 2100(D) x 1900(H) mm

✱Working limits with CLAWS CLAMPING

DN	1”	2”	3”	4”	6”	8”	10”	12”	14”	16”
bar	700	700	678	510	287	183	127	94	65	52

*Note: Showed data has been calculated considering nominal minimum bore size ANSI + 50mm. For further details please contact our technical department.
Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified. .

CE

BOR-M/20P

CLAWS CLAMPING +PORTABLE CLAMPING DEVICE

CLAMP TYPE 5

CLAMP TYPE 6

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option
Bunker assembly asset available as option.

Reaction force	:	**20 TON**
Max flange diameter	:	200 mm
Min flange diameter	:	90 mm
Max flange thickness	:	10 - 65mm
Tilting angle	:	90°
Basement water vessel	:	100 Liters ca.
Terminations allowed	:	RF, RJ
Clamping style	:	Type 5 – Claws only
Dimensions (mech)	:	1020 (L) x 1940 (D) x 1800 (H) mm

*Working limits for SHELL TEST with CLAWS CLAMPING:

	DN	½"	1"	2"	3"
ANSI-150	TON				
ANSI-300	TON				
ANSI-600	TON				
ANSI-900	TON				

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 20mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

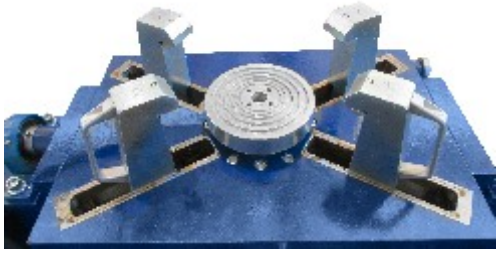
Tiltable Single/Double claws clamping with a floor-fixed claws clamping unit, and optional portable clamping unit. Claws clamping can be performed only on flanged valves.
It allows the testing of mechanical stress on flange necks during test performing.
Besides, the clamping force has no influence on valve seat behaviour during test, due to the absence of external forces applied.
Even VISUAL tests on valve seat during test are facilitated.
Armored fairing system ensures operators safety.
The rig is controlled by a **SKMM-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.

Auto centering claws movement with manual lever

CE

BOR-5M/20P CLAWS CLAMPING W/90° TILTABILITY

CLAMP TYPE 5 | CLAMP TYPE 6



AVAILABLE FROM 1 TO 5 STATIONS

Five station tiltable rig with Single/Double claws clamping with a floor claws clamping unit.
Clamping can be performed only on flanged valves. It allows the verification of mechanical stress on flange necks during testing. Besides, the clamping force has no influence on valve seat behaviour during test, due to the absence of external forces applied. There are different pressure targets for each station. VISUAL test on valve seat during test is facilitated.
The rig is controlled by a **SKMA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**5 x 20 TON**
Max flange diameter	:	400 mm
Min flange diameter	:	90 mm
Min-max flange thickness	:	10 - 65 mm
Tilting angle	:	0° - 90°
Basement water vessel	:	500 Liters
Termination allowed	:	RF, RJ
Clamping style	:	Type 5 / 6 – Claws / Double Claws
Dimensions (mech)	:	5405 (L) x 1850 (P) x 1040 (H) mm

*Working limits for SHELL TEST with CLAWS CLAMPING:

	DN	15	20	32	40	50	80	100	125	150	200
PN-6	TON										
PN-10	TON										
PN-16	TON										
PN-25	TON										
PN-40	TON										
PN-63	TON										

*Note: Showed data has been calculated considering SHELL TEST pressure and nominal minimum bore size ANSI + 40mm.
For further details please contact our technical department. Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified.

BV-5V/150SH

Multiple stations test benches

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CE

BV-2CV/60SH

COMBINED CLAMPING W/PROPORTIONAL PRESSING CONTROL

CLAMP TYPE 3

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Assembly example with full surrounding protection guarding

Double test station vertical test bench with combined clamping.
Valve length adjustment is performed by the upper side screwed column moved by an hydraulic gear.
This assures complete absence of external forces on the valve body in case of bore plugs clamping.
On the bottom side a proportionally controlled pressing cylinder offers face-to-face sealing.
This asset makes this test bench compliant to the most widespread testing standards.
Operator safety is granted by full surrounding protection guarding with bullet-proof crystal to offer perfect visual inspection.
The opening of the fence is ruled by a control system to reduce operator risk exposure to minimum terms.
The test process is controlled by a **SKA-100** pressurization SKID.

Reaction force	:	**60 TON** 2 x 30 TON (See working limits table)
Max valve length	:	600 mm
Min valve length	:	90 mm
Max flange diameter	:	400 mm
Loading height from soil	:	1150 mm
Terminations allowed	:	RF, RTJ, BW, SW
Clamping style	:	Type 3 –Combined
Dimensions (mech)	:	1270 (L) x 1530 (D) x 2347 / 2758 (H) mm

Bullet-proof fairing

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	½"	1"	2"	3"	4"	6"
ANSI-150	TON						
ANSI-300	TON						
ANSI-600	TON						
ANSI-900	TON						
ANSI-1500	TON						
ANSI-2500	TON						

*Note: Showed data has been calculated considering SHELL TEST pressure and nominal minimum bore size ANSI + 30mm.
For further details please contact our technical department. Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified.

CE

BV-3V/540
BV-3V/450
BV-3V/360
BV-3V/240

CLAMP TYPE 2

INNER RADIAL SEAL (BORE PLUGS) 3 LOADING TRAYS

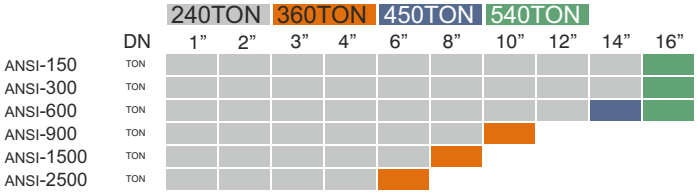
Vertical test rig with inner radial seal clamping style.
3 test places available for contemporary pressure tests.
The screwed columns assure complete absence of external forces on valves body. This prerogative makes it compliant to the most widespread international test standards. The rig is controlled by a **SKMM-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option Bunker assembly asset available as option.

		BV-3V/540	BV-3V/450	BV-3V/360	BV-3V/240
Reaction force (total)	:	**540 TON** 3 x 180 TON (See working limits table)	**450 TON** 3 x 150 TON (See working limits table)	**360 TON** 3 x 120 TON (See working limits table)	**240 TON** 3 x 80 TON (See working limits table)
Max valve length	:	1000 mm	1200 mm	1000 mm	700 mm
Min valve length	:	300 mm	150 mm	150 mm	150 mm
Center to center distance	:	850 mm	700 mm	650 mm	580 mm
Loading height	:	1045 mm	925 mm	925 mm	1170 mm
Basement water vessel	:	500 Liters	400 Liters	400 Liters	400 Liters
Loading tray	:	3 indipendent	3 indipendent	3 indipendent	3 indipendent
Loading tray length	:	600 mm	400 mm	400 mm	400 mm
Terminations allowed	:	BW, SW, RF, RJ	BW, SW, RF, RJ	BW, SW, RF, RJ	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial	Type 2 – Inner radial	Type 2 – Inner radial	Type 2 – Inner radial
Dimensions (mech)	:	3450(L) x 2200(D) x 4380(H) mm	2525(L) x 1200(D) x 3950(H) mm	2375(L) x 1200(D) x 3750(H) mm	2200(L) x 1200(D) x 3150(H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL



*Note: RIG without protection for bunker use. Indicated values have been calculated for shell test and with API-6D nominal minimum bore size and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig.

CE

BV-3V/270LSH

INNER RADIAL SEAL (BORE PLUGS) 3 LOADING TRAYS DIFFERENTIATED LOAD

CLAMP TYPE 2

Vertical test rig with inner radial seal clamping style.
3 test places available for contemporary pressure test.
The screwed columns assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
Different screw diameters let you extend valves range for testing (See working limits).
The rig is controlled by a **SKMM-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force (total)	:	**270 TON** 3 x 90 TON 2 x 125 TON (Lateral) 1 x 200 TON (Central) (See working limits table)
Max valve length	:	1200 mm
Min valve length	:	500 mm
Center to center distance	:	650 mm
Loading height	:	970 mm
Screw stroke	:	700 mm
Loading tray	:	3 independent
Loading tray length	:	400 mm
Basement water vessel	:	450 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	2200(L) x 1200(D) x 2750H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	4”	6”	8”	10”	12”
ANSI-150	TON					
ANSI-300	TON					
ANSI-600	TON					
ANSI-900	TON					
ANSI-1500	TON					
ANSI-2500	TON					

[stations ❶ and ❸]

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	4”	6”	8”	10”	12”	14”	16”	18”	20”
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									

[stations ❷]

*Note: Showed data has been calculated considering SHELL test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

CE

BV-3V/150LP

INNER RADIAL SEAL (BORE PLUGS)
3 LOADING TRAYS
DIFFERENTIATED LOAD

CLAMP TYPE 2

Vertical test rig with inner radial seal clamping style.
3 test places available, for contemporary pressure tests.
The screwed columns assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force (total)	:	**150 TON** 1 x 150 TON 2 x 75 TON 3 x 50 TON (See working limits table)
Max valve length	:	950 mm
Min valve length	:	0 mm
Center to center distance	:	450 mm
Loading height	:	1000 mm
Loading tray length	:	300 mm
Max flange diameter	:	450 mm
Basement water vessel	:	400 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial
Dimensions (mech)	:	1860 (L) x 1250 (D) x 2750 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL

		3 x 50TON	2 x 75TON	1 x 150TON								
	DN	½"	1"	2"	2"½	3"	4"	5"	6"	8"	10"	12"	14"
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

BV-CC3V/60SH

INNER RADIAL SEAL (BORE PLUGS) OR P.E.A. ADAPTORS W/AUTOMATIC ¼ TURN VALVE ACTUATOR

CLAMP TYPE 2

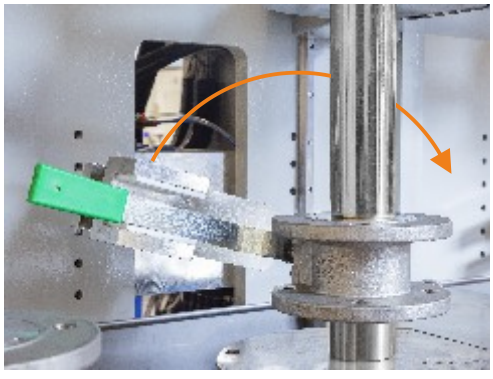
CLAMP TYPE 7

Three station vertical test bench with combined "Bore plugs" clamping.
Valve length adjustment is performed by an upper side screwed column moved by an hydraulic gear.
This assures complete absence of external forces on valve body.
Automatic ¼ turn actuators are included to operate the valve during test procedures and to perform endurance tests.
Operator safety is granted by full surrounding protection guarding with bullet-proof crystal to offer perfect visual inspection.
The opening of the guarding is ruled by a control system to reduce operator risk exposure to minimum terms. Test process is controlled by a PLC & LCD touchscreen.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Lifter trolleys and Safety perimetric protection available as option
Bunker or Pit assembly asset available as option.

Reaction force (total)	:	**60 TON** 3 x 20 TON (See working limits table)
Max valve length	:	460 mm
Min valve length	:	50 mm
Max flange diameter	:	300 mm
Loading height from the ground	:	1100 mm
Actuator torque	:	120 Kgm
Actuator angle	:	-15° / +75 °
Basement water vessel	:	400 Liters
Terminations allowed	:	RF, RTJ, BW, SW
Clamping style	:	Type 2 Bore Plugs - Type 7 P.E.A.
Dimensions (mech)	:	2366 (L) x 1105 (D) x 2500 (H) mm



*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	½"	1"	2"	3"	4"	6"
ANSI-150	TON						
ANSI-300	TON						
ANSI-600	TON						
ANSI-900	TON						
ANSI-1500	TON						
ANSI-2500	TON						

*Note: Showed data has been calculated considering SHELL TEST pressure and nominal minimum bore size ANSI.
For further details please contact our technical department. Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified.

BV-3V/30SH

INNER RADIAL SEAL (BORE PLUGS) 3 TEST PLACES WITH AUTOMATIC ¼" TURN VALVE ACTUATOR

CLAMP TYPE 2

Vertical test rig with inner radial seal clamping style.
3 test places available, for multiple pressure tests.
The screwed columns assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
Upper side screws are moved manually by the operators.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option Bunker assembly asset available as option.

Reaction force	:	**30 TON** (10% minimum press clamping) 3 x 10 TON (See working limits table)
Max valve length	:	340 mm
Min valve length	:	50 mm
Center to center distance	:	300 mm
Max flange diameter	:	300 mm
Loading height	:	1000 mm
Basement water vessel	:	100 Liters ca.
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Bore Plugs
Dimensions (mech)	:	1200 (L) x 1490 (D) x 1950/2305 (H) mm

Option for automatic ¼ turn valve actuator.

✱Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	½"	1"	1 1/2"	2"	3"	4"
ANSI-150	TON						
ANSI-300	TON						
ANSI-600	TON						
ANSI-900	TON						
ANSI-1500	TON						
ANSI-2500	TON						

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size.
For further details please contact our technical department.

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BV-3CV/240SH

COMBINED CLAMPING, INNER RADIAL SEAL
+ PROPORTIONAL PRESSING
3 LOADING TRAYS

CLAMP TYPE 3

Note: Safety perimetric protection available as option
Bunker assembly asset available as option.

Reaction force(total)	:	**240 TON** (10% minimum press clamping) 3 x 80 TON (See working limits table)
Max valve length	:	1000 mm
Min valve length	:	150 mm
Loading height	:	1100 mm
Distance between places	:	580 mm
Basement water vessel	:	400 Liters
Terminations allowed	:	RF, RJ, BW, SW
Clamping style	:	Type 3 - Combined
Clamping force control		:Automatic within 5..100% interval, proportional to the hydrostatic pressure inside the valve under test. Regulation can be controlled by the operator
Loading tray length	:	500 mm
Dimensions (mech)	:	2200 (L) x 1600 (D) x 2850 (H) mm

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	½"	1"	2"	2"½	3"	4"	5"	6"	8"	10"	12"
ANSI-150	TON											
ANSI-300	TON											
ANSI-600	TON											
ANSI-900	TON											
ANSI-1500	TON											
ANSI-2500	TON											

*Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size and they have to be considered as reference only.
Press clamping style limits are based on bore size increased by 50 mm.
For more accurate information please contact our technical department or consult the instructions book delivered along the rig.

Vertical test rig with combined clamping style.
It has 3 test places available with combined clamping.
With the **hydraulic cylinder** (bottom side), operators can test flanged valves with proportional controlled press clamping, where the press force is automatically controlled according to the water pressure inside valves, and the result load is reduced to minimal terms. With the screwed columns you can test BW, SW termination using these inner radial seals.
The combination of these two different clamping styles makes the rig suitable for all valve kinds.
Each station has its own loading tray that simplifies loading procedures of Nr.3 independents units.
The unit could be controlled by a **SKA-100** pressurization skid.

Optional quick clamping for screwed ports valves.

CE

BV-5V/150SH

INNER RADIAL SEAL (BORE PLUGS)
5 LOADING TRAYS

CLAMP TYPE 2

Vertical test rig with inner radial seal clamping style.
5 tests places available for multiple pressure tests.
The screwed columns assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig can be completed with several accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option. Bunker assembly asset available as option.

Reaction force (total)	:	**150 TON** 5 x 30 TON (See working limits table)
Max valve length	:	700 mm
Min valve length	:	200 mm
Center to center distance	:	580 mm
Loading height	:	1200 mm
Basement water vessel	:	400 Liters ca.
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Bore Plugs
Dimensions (mech)	:	3280 (L) x 1250 (D) x 2750 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	1”	2”	3”	4”	6”	8”	10”	12”
ANSI-150	TON								
ANSI-300	TON								
ANSI-600	TON								
ANSI-900	TON								
ANSI-1500	TON								
ANSI-2500	TON								

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

CE

BV-3CV/60P

COMBINED CLAMPING W/PROPORTIONAL PRESSING CONTROL

CLAMP TYPE 3

Three test station vertical test bench with combined clamping.
Valve length adjustment is performed by an upper side screwed column moved by an hydraulic gear.
This assures the complete absence of external forces on valve body in case of bore plugs clamping.
On the bottom side a proportionally controlled pressing cylinder makes face-to-face sealing available.
This asset makes the test bench compliant to the most widespread testing standards.
Operator safety is granted by full surrounding protection guarding with bullet-proof crystal to offer perfect visual inspection.
The opening of guarding is ruled by a control system to reduce operator risk exposure to minimum terms.
Test process is controlled by a **SKA-100** pressurization SKID.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Assembly example with full surrounding protection guarding

Reaction force	:	**60 TON** 3 x 20 TON (See working limits table)
Max valve length	:	500 mm
Min valve length	:	0 mm
Max flange diameter	:	350 mm
Loading height from the ground	:	850 mm
Terminations allowed	:	RF, RTJ, BW, SW
Clamping style	:	Type 3 –Combined
Dimensions (mech)	:	1950 (L) x 1400 (D) x 2400 (H) mm

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	½"	1"	2"	3"	4"
ANSI-150	TON					
ANSI-300	TON					
ANSI-600	TON					
ANSI-900	TON					
ANSI-1500	TON					
ANSI-2500	TON					

*Note: Showed data has been calculated considering SHELL TEST pressure and nominal minimum bore size ANSI + 30mm.
For further details please contact our technical department. Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified.

CE

BV-3CV/150SH

COMBINED CLAMPING, INNER RADIAL SEAL + PROPORTIONAL PRESSING 3 LOADING TRAYS

CLAMP TYPE 3

Vertical test rig with type Nr.3 "combined" inner radial seal clamping style and proportional pressing.
It has three test places with independent loading trays.
With the hydraulic cylinder (bottom side), operators can test flanged valves with proportional controlled press clamping, where the press force is automatically controlled according to the water pressure inside valves, and the result pressing force is reduced to minimal terms.
With the screwed columns it can test BW, SW terminations using these inner radial seals.
The combination of these two different clamping styles makes the rig suitable for all valve kinds.
Each station has its own loading tray that simplifies loading procedures.
The unit is controlled by a **SKA-100** pressurization skid.

Note: Safety perimetric protection available as option - Bunker assembly asset available as option.

Reaction force (total)	:	**150 TON** 3 x 50 TON(See working limits table)
Max valve length	:	508 mm
Min valve length	:	76 mm
Center to center distance	:	580 mm
Loading height	:	1200 mm
Basement water vessel	:	250 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – combined
Dimensions (mech)	:	2415(L)x 1740(D) x 2630(H) mm

*operative limits : ANSI SHELL TEST with BORE PLUG or PROPORTIONAL PRESS CLAMPING

	DN	½"	¾"	1"	1"½	2"	3"	4"	6"	8"
ANSI-150	TON									
ANSI-300	TON									
ANSI-600	TON									
ANSI-900	TON									
ANSI-1500	TON									
ANSI-2500	TON									
ANSI-4500										

*Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size, added by +30mm in case of proportional press clamping. They have to be considered as a quick reference only. For more accurate information please contact our technical office.

CE

BV-5CV/400SH

COMBINED CLAMPING, INNER RADIAL SEAL + PROPORTIONAL PRESSING 5 LOADING TRAYS & BULLET PROOF SURROUNDING PROTECTION

CLAMP TYPE 3

Vertical test rig with inner radial seal clamping style and proportional pressing.
It has five test places with combined clamping.
With the hydraulic cylinder (bottom side), operators can test flanged valves with proportional controlled press clamping, where the press force is automatically controlled according to the water pressure inside the valve, and the result load is reduced to minimal terms.
With the screwed columns it can test BW, SW terminations using the inner radial seal.
The combination of these two different clamping styles makes the rig suitable for all valve kinds. The unit could be controlled by a **SKA-100** pressurization skid.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**400 TON** 5 X 80 TON (See working limits tables)
Max valve length	:	700 mm
Min valve length	:	200 mm
Center to center distance	:	650 mm
Loading height	:	1200 mm
Basement water vessel	:	250 Liters
Terminations allowed	:	RF, BW, SW, RJ
Clamping style	:	Type 3 - combined
Dimensions (mech)	:	4160 (L) x 1630 (D) x 3810 (H)

*operative limits : ANSI SHELL TEST with BORE PLUG or PROPORTIONAL PRESS CLAMPING

	DN	1”	2”	3”	4”	6”	8”	10”	12”
ANSI-150	TON								
ANSI-300	TON								
ANSI-600	TON								
ANSI-900	TON								
ANSI-1500	TON								
ANSI-2500	TON								

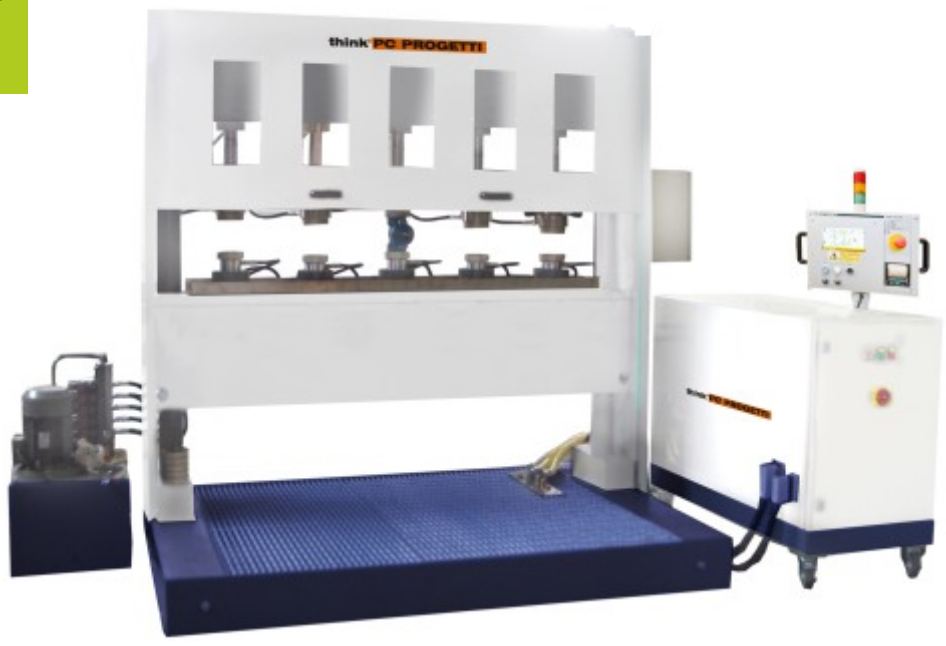
(*) Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size, added by +40mm in case of proportional press clamping. They have to be considered as quick reference only. For more accurate information please contact our technical office.

CE

BV-5CV/100P

COMBINED CLAMPING, INNER RADIAL SEAL + PROPORTIONAL PRESSING 5 LOADING TRAYS

CLAMP TYPE 3



Vertical test rig with combined clamping style.
It has 5 test places with combined clamping.
With the hydraulic cylinder (bottom side), operators can test flanged valves with proportional controlled press clamping, where the press force is automatically controlled according to the water pressure inside the valve, and the result load is reduced to minimal terms. With the screwed columns it can test BW, SW terminations using the inner radial seal.
The combination of these two different clamping styles makes the rig suitable for all valve kinds.
The unit could be controlled by a **SKA-100** pressurization skid.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**100 TON** (10% minimum press clamping) 5 x 20 TON (See working limits tables)
Max valve length	:	500 mm
Min valve length	:	50 mm
Center to center distance	:	300 mm
Loading height	:	1000 mm
Basement water vessel	:	200 Liters
Terminations allowed	:	RF, RJ, BW, SW
Clamping style	:	Type 3 - Combined
Clamping force control	:	Automatic within 5..100% interval, proportional to the hydrostatic pressure inside the valve under test. Regulation can be controlled by the operator.
Dimensions (mech)	:	2106 (L) x 1420 (D) x 2536 (H) mm (skid not included)

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	½"	1"	2"	2"½	3"	4"	5"	6"
ANSI-150	TON								
ANSI-300	TON								
ANSI-600	TON								
ANSI-900	TON								
ANSI-1500	TON								
ANSI-2500	TON								

*Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size and they have to be considered as reference only.
Press clamping style limits are based on bore size increased by 50 mm.
For more accurate information please contact our technical department or consult the instructions book delivered along the rig.

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CE

BV-5MV/20 UNIVERSAL CLAMPING

CLAMP TYPE 4

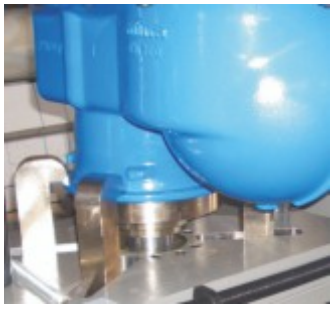
Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Vertical test rig with universal clamping style:
- Claws on RF/RJ valves
- Press clamping
- Inner radial seal.

5 test places available for multiple pressure tests.
The screwed columns assure complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards. The upper side reaction bridge can be removed with a 90° rotation flag style. In this way loading procedures are easier.
Water recovering is automatic even for check valves.
A device to open check valves is available on request.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Reaction force	:	**20 TON** 5 x 20 TON (See working limits tables)
Max valve length	:	340 mm
Min valve length	:	50 mm
Max flange diameter	:	300 mm
Basement water vessel	:	100 Liters ca.
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 2 – Bore plugs
Dimensions (mech)	:	1200 (L) x 1490 (D) x 1950/2305 (H) mm



✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

	DN	50	100	125	150	200
PN-10	TON					
PN-16	TON					
PN-25	TON					
PN-40	TON					
PN-64	TON					
PN-100	TON					

(*)Note: Indicated values have been calculated for shell test and with nominal minimum bore size + 30mm
and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

CE

BVI-6V/60P

INNER RADIAL SEAL (BORE PLUGS)
6 LOADING TRAYS &
BULLET PROOF SURROUNDING PROTECTION

CLAMP TYPE 2

Vertical test rig with inner radial seal clamping style.
Six test places available for simultaneous pressure tests.
The screwed columns assure complete absence of external forces on valve body.
This prerogative makes it compliant to the most widespread international test standards.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicated technical data sheets.
The rig could be completed with several options and accessories, please contact our sales offices to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**60 TON** 6 x 10 TON (See working limits tables)
Max valve length	:	450 mm
Min valve length	:	200 mm
Center to center distance	:	350 mm
Loading height	:	1050 mm
Basement water vessel	:	150 Liters
Terminations allowed	:	RF, BW, SW, RTJ
Clamping style	:	Type 2 - bore plugs
Dimensions (mech)	:	3035 (L) x 1790 (D) x 2855 (H)

*Operative limits 6x10TON: API-6D Shell test (BORE PLUGS CLAMPING)

	DN	1"	2"	3"	4"
ANSI-150	TON				
ANSI-300	TON				
ANSI-600	TON				
ANSI-900	TON				
ANSI-1500	TON				
ANSI-2500	TON				

(*) Note: Indicated values have been calculated for shell test and with API-6D nominal bore size and they have to be considered as reference only.
For more accurate information please contact our technical office.

BVI-3CV/60

Water immersion test benches

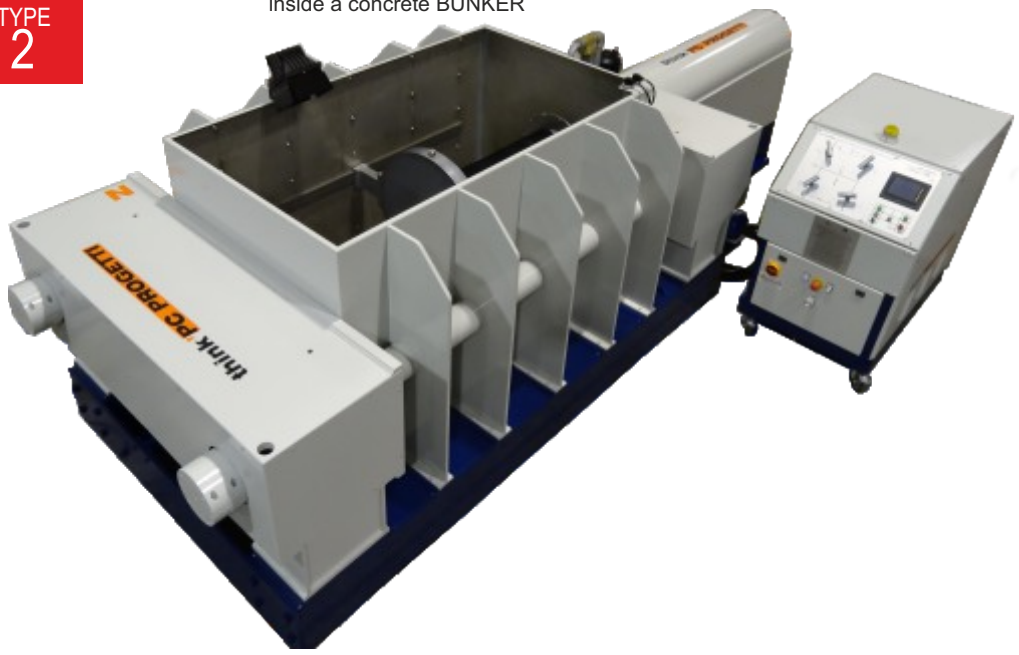
CE

BOI-V/450
BOI-V/250

HORIZONTAL LOADING
INNER RADIAL SEALS (BORE PLUGS)

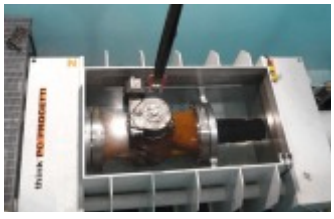
CLAMP TYPE 2

Version to be installed inside a concrete BUNKER



Note: Safety perimetric protection available as option
Bunker assembly asset available as option.

Horizontal test rig with inner radial seal clamping style.
The mobile reaction bridge is moved by one screwed column that assures complete absence of external forces on valve body. This prerogative makes it compliant to the most widespread international test standards.
A vessel around the valve can be filled with water to visually check external leakages under GAS tests. The rig is controlled by a **SKMM/GAS** pressurization skid; to have more information about it please consult dedicated technical data sheets. The rig could be completed with several options and accessories, please contact our sales office to have more information.



Option for pit installation

Reaction force	:	**450 TON** (See working limits table)	**250 TON** (See working limits table)
Max valve length	:	1550 mm	1550 mm
Min valve length	:	150 mm	150 mm
Column inner clearance	:	1150 mm	1150 mm
Flow axes height	:	868 mm (height of flow axes from the ground)	868 mm (height of flow axes from the ground)
Vessel inner dimension	:	1930 (L) x 1065 (D) x 1100 (H) mm	1930 (L) x 1065 (D) x 1100 (H) mm
Vessel capacity	:	2260 Liters	2260 Liters
Filling/ recovering pumps	:	500 Liters/min (1000 Liters/min optional)	500 Liters/min (1000 Liters/min optional)
Terminations allowed	:	BW, SW, RF, RJ	BW, SW, RF, RJ
Clamping style	:	Type 2 – Inner radial	Type 2 – Inner radial
Dimensions (mech)	:	4750 (L) x 1690 (D) x 1415 (H) mm	4500 (L) x 1690 (D) x 1415 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	2”	3”	4”	6”	8”	10”	12”	14”	16”	18”	20”	24”
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												
ANSI-4500	TON												

*Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size and they have to be considered as reference only.
For more accurate information please contact our technical department or consult the instruction book delivered along the rig.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

CE

BOI-C/1

ON/OFF PRESS CLAMPING
FIXED WATER VESSEL (Automatic immersion)

CLAMP TYPE 3

Water immersion test bench.
It has been designed to discover bubble leakages in valves castings & seats.
It is equipped with press clamping (on/off control).
Automatic immersion developed to test cycles.
Vessel water temperature is controlled to emphasize bubbles forming, and it's lit up with a high intensity submerged spotlight.
Please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**1 TON**
Valve kind to test	:	Floating ball valves sizes – ¼" - ½" – ¾" - 1" – 1" ¼ -1" ½ -2"
Water vessel	:	100 Liters
Clamping style	:	Type 1 - compression on/off
Dimensions (mech)	:	800 (L) x 1130 (D) x 1600 (H)

CE

BVI-3CV/60

VERTICAL LOADING, COMBINED CLAMPING - DOUBLE MEDIA (GAS+H_2O) PROPORTIONAL PRESS CONTROL CYLINDER + SCREW

CLAMP TYPE 3

3 station vertical test rig with clamping style Nr.3 combined. Each test place has the possibility to perform GAS tests under water having independent water vessels hydraulically moved. Each water vessel has a temperature control system to set up water temperature of 40°. Proportional control of pressing clamp is available as well; the press force is controlled automatically according to the water pressure inside the valve, and the result load is reduced to minimal terms. Armoured steel protection with bullet-proof glass guarantees the highest safety level for operators, and the best view for under water bubbles leak catching.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult dedicate technical data sheet.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**60 TON** 3x20 TON/screw (10% minimum press clamping) (See working limits tables).
Max valve length	:	500 mm
Min valve length	:	0 mm
Distance between places	:	400 mm
Water immersion vessel	:	D. 290mm x 550H
Water heating	:	Automatic 20-40°C
Terminations allowed	:	RF, RJ, BW, SW
Clamping style	:	Type 3 - Combined
Clamping force control	:	Automatic within 5..100% interval, proportional to the hydrostatic pressure inside the valve under test. Reg. gain controlled by the operator
Dimensions (mech)	:	1960 (L) x 1040 (D) x 2640 (H) mm /2950 (H) mm MAX

Proportional press clamping available only with hydro test.

✱Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

DN		½"	1"	2"	2"½	3"	4"
ANSI-150	TON						
ANSI-300	TON						
ANSI-600	TON						
ANSI-900	TON						
ANSI-1500	TON						
ANSI-2500	TON						

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 20mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult the instructions book delivered along the rig

CE

BVI-PMV/100P VERTICAL LOADING, INNER RADIAL SEALS (BORE PLUGS)

CLAMP TYPE 2

Water immersion Gas test rig.
It has been designed to discover bubble leakages in valves casting.
A water vessel is vertically moved in order to save testing time.
A clamping system will let the operator place valves directly on testing position.
An armoured fairing system ensures operator safety in case of components ejection.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option. Bunker assembly asset available as option.

Reaction force	:	**100 TON**
Max valve length	:	1000 mm
Min valve length	:	200 mm
Column inner clearance	:	1000 mm
Vessel dimension	:	750 (L) x 750 (D) x 1000 (H) mm
Water vessel	:	562 Liters
Clamping style	:	Type 2: Inner radial seal
Dimensions (mech)	:	1150 (L) x 1900 (D) x 2810 (H) mm

✱Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	½"	1"	2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
ANSI-150	TON												
ANSI-300	TON												
ANSI-600	TON												
ANSI-900	TON												
ANSI-1500	TON												
ANSI-2500	TON												

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

CE

BVI-3V/90SH

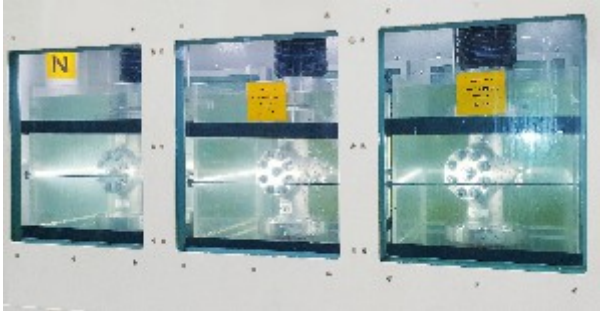
INNER RADIAL SEAL (BORE PLUGS)
3 INDEPENDENT WATER VESSELS &
BULLET-PROOF SURROUNDING PROTECTION

CLAMP TYPE 2

Three station vertical test rig with inner radial seal clamping style.
Each test place has the possibility to perform GAS tests under water having independent water vessels, rising automatically to submerge the valve.
Each water vessel can be equipped with a temperature control system.
Proportional control of pressing clamp is available as well; the press force is automatically controlled according to pressure inside the valve, and the result load is reduced to minimal terms.
Armored steel protection with bullet-proof glass guarantees the highest safety level for operators, and the best view for under water bubbles leak catching.
The rig is controlled by a **SKA-100** pressurization skid; to have more information about it please consult the dedicated technical data sheet.
The rig could be completed with several options and accessories, please contact our sales office to have more information.

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**90 TON**
Max valve length	:	460 mm
Min valve length	:	200 mm
Loading height	:	1100 mm
Vessel inner dimension	:	400 (L) x 525 (D) x 500 (H) mm
Water heating	:	5-40°C
Distance between test places	:	550 mm
Terminations allowed	:	RF, BW, SW, RJ
Clamping style	:	Type 2 - Inner radial
Dimensions (mech)	:	2295 (L) x 1110 (D) x 2630 (H)



✱Operative limits 3 x 10 TON: DIN SHELL TEST (BORE PLUG CLAMPING)

	DN	½"	¾"	1"	1"½	2"
ANSI-150	TON					
ANSI-300	TON					
ANSI-600	TON					
ANSI-900	TON					
ANSI-1500	TON					
ANSI-2500	TON					

(*) Note: showed data has been calculated considering SHELL test pressure and nominal bore size ANSI for bore clamping.
For further details please contact our technical dept.

CE

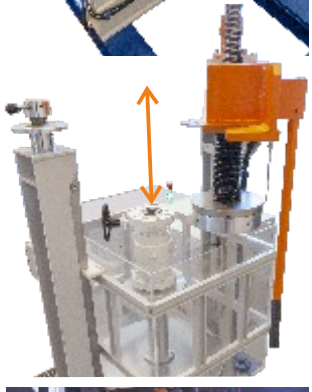
BVI-V/20

VERTICAL LOADING, INNER RADIAL SEALS (BORE PLUGS)

Water immersion air test rig.
It has been designed to discover bubbles leakages in valves casting.
A water vessel is vertically moved in order to save testing time.
A clamping system will let the operator place valves directly on testing position.

CLAMP TYPE 2

Version to be installed inside a BUNKER



Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

Reaction force	:	**20 TON**
Max valve length	:	610 mm
Min valve length	:	200 mm
Column inner clearance	:	800 mm
Water immersion vessel	:	690 (L) x 1200 (D) x 790 (H) mm vertical movement
Clamping style	:	Type 2: Inner radial seal
Dimensions (mech)	:	1550 (L) x 1980 (D) x 2480 (H) mm

*Working limits for SHELL TEST with INNER RADIAL SEAL

	DN	½"	1"	2"	2"½	3"	4"	5"	6"	8"	10"
ANSI-150	TON										
ANSI-300	TON										
ANSI-600	TON										
ANSI-900	TON										
ANSI-1500	TON										
ANSI-2500	TON										

*Note: Showed data has been calculated considering Shell test pressure and nominal bore size according to API-6D.
For further details please contact our technical department.

BV-M/90SH

PSV PRV PVSV test benches

Test rigs for pressure safety valves (PSV), pressure relief valves (PRV) and breather valves(PVSV), have three main prerogatives:

- Clamping is performed by claws which have the benefit of avoiding mechanical effort on valves body, and mechanical strength can be applied in the same way of a real application in order to verify the resistance of mechanical designs of flanged ends.

- Pressurization can be supported by adequate volume vessels able to “supply” enough discharge flow to verify correct seat lift and blow down ability of the components under test.

- Full surrounding bullet-proof protection fairing (roof installed) will ensure best operators safety level.

Rigs described in these pages are available for both media water & GAS (Nitrogen/Air) with different styles of claws clamping: manual fixing, manual auto-centering, hydraulic
auto-centering.

Standard rigs are available up to 24” flanged valves, with different nominal loads as indicated in working limit tables. Different size range is available on request, as well as tiltability design even for large size ranges.

Several process options can be selected to make performance and leakage test procedures according to API standards rules.
Electrical & pneumatic driven compressors are available for GAS supply.
A dedicated software package **TestREC-PSV** is available to collect test data, store them in test database and to print out complete certification of valve performance (Simmer points, Pop pressure, Re-Seat pressure, Blow down, Seat Lift measure & Leak rate).

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CE

BV-M/90SH

CLAWS CLAMPING
WITH FULL SURROUNDING FAIRING SYSTEM

CLAMP TYPE 5

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Test rig with claws clamping.
Test of RF or RTJ valves could be executed in real working conditions.
The clamping is of hydraulic on/off type.
This prerogative makes it suitable for PSV valves and for flow valves.
The auto-centering movement of claws and tilting is hydraulically or pneumatically controlled (as option).
In the basement there is a vessel for test fluid and additional vessels are available.
Full surrounding **bullet-proof** protection fairing (roof included) will ensure best operators safety level.
It can be controlled by a standard pressurization skid; in the picture you can see mod. **SKMA-100-GAS**

Note: Test bench can be equipped with pressure vacuum safety valve (PVSV) testing facilities as option

Reaction force	:	**90 TON** (See working limits table)
Max flange diameter	:	530 / 650 / 860mm
Min flange diameter	:	150 mm
Seat lift measure contact less	:	0-150 mm ± 0.15%
Max flange thickness	:	140 mm
Loading height	:	1200 mm
Tilting angle	:	FIXED (not tiltable)
Basement water vessel	:	200 Liters
Terminations allowed	:	RF, RJ
Clamping style	:	Type 5 - Hydraulic cylinder w/claws
Clamping force control	:	On/Off type, Range 5..100 %
Reference standard	:	ISO, API, ASME, ASTM
Dimensions (mech)	:	1130(L) x 1680(D) x 2985(H) mm

✱Working limits with CLAWS CLAMPING

DN	1”	2”	3”	4”	6”	8”	10”	12”	14”	16”
bar	700	700	678	510	287	183	127	94	65	52

*Note: Showed data has been calculated considering nominal minimum bore size ANSI + 50mm.
For further details please contact our technical department.
Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified.

CE

BV-M/60P

CLAWS CLAMPING WITH FULL PERIMETER PROTECTION

Test rig with claws clamping.
Test on RF or RTJ valves could be executed in real working conditions.
The clamping is of hydraulic on/off type. This prerogative makes it suitable for PSV valves and for flow valves.
The auto-centering movement of claws is hydraulically or pneumatically controlled (as option).
Perimeter protection fairing will ensure operator safety; double access side is foreseen to get access to inner area (Front & Rear). It can be controlled by a SKMM or SKMA class pressurization skid.

CLAMP TYPE 5

Note: Test bench can be equipped with pressure vacuum safety valve (PVSV) testing facilities as option

Reaction force	:	**60 TON**
Working stands	:	1 (two on request)
Max flange diameter	:	530 / 650mm
Min flange diameter	:	90 mm
Seat lift measure contact less	:	0-150 mm ± 0.15%
Max flange thickness	:	100 mm
Tilting angle	:	Fixed (not tiltable)
Basement water vessel	:	200 Liters
Termination allowed	:	RF, RJ
Clamping style	:	Type 5 - Hydraulic cylinder w/claws
Clamping force control	:	On/Off type, Range 10..100 %
Reference standard	:	ISO, API, ASME, ASTM
Dimensions (mech)	:	1744(L) x 1500(D) x 1865(H) mm

*Working limits with CLAWS CLAMPING

DN	1"	2"	3"	4"	6"	8"	10"	12"	14"	16"
bar	700	700	452	340	191	122	85	62	43	35

*Note: Showed data has been calculated considering nominal minimum bore size ANSI + 50mm. For further details please contact our technical department.
Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified. .

CE

SKMM-100/PSV

HYDRAULIC AND PNEUMATIC TEST BENCHES FOR PSV VALVES

CLAMP TYPE 5

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Pressurization skid dedicated to small size PSV calibration procedures.
It has a water reservoir inside the cabinet in order to be independent during tests performance. A fine regulation for water or gas pressurization completes the standard furniture.
"T" bolts guide for manual claws clamping is foreseen.
An armoured full surroundings fairings system ensures operator safety (flag or vertical opening).

Note: Test bench can be equipped with pressure vacuum safety valve (PVSV) testing facilities as option

Reaction force	:	**10 TON** (See working limits table)
Flange max diameter	:	300 mm
Flange min diameter	:	90 mm
Seat lift measure contact less	:	0-150 mm ± 0,15 %
Max flange thickness	:	40 mm
Tilting angle	:	FIXED (not tiltable)
Terminations allowed	:	RF, RJ
Clamping force control	:	Type 5 DIN T-Bolts
Reference standard	:	ISO, API, ASME, ASTM
Pneumatic supply	:	6.5 bar @ 1100 Nl/min Dry air not lubricated
Electrical supply	:	3PH + G 380V@50Hz, 2KW
Dimensions (mech)	:	700 (L) x 1250 (P) x 1900 (H) mm

*Working limits with CLAWS CLAMPING

DN	1”	2”	3”	4”
bar	226	127	75	56

*Note: Showed data has been calculated considering nominal minimum bore size ANSI + 50mm. For further details please contact our technical department.
Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified. .

CE

SKMA-100/PSV-2 HYDRAULIC AND PNEUMATIC TEST BENCHES FOR PSV VALVES

CLAMP TYPE 5

Pressurization skid dedicated to small size PSV calibration procedures. It is controlled by a PLC and a touch screen LCD terminal. It has a dedicated software for set-point, pop and reseat pressure value. It has a water reservoir inside the cabinet in order to be independent during tests performance. A fine regulation for water or gas pressurization completes the standard furniture.
There is a claws concentric movement manually operated (hydraulic as option) to facilitate the clamping procedure.
An armoured full surroundings fairings system ensures operator safety (flag or vertical opening).

Reaction force	:	**20 TON** (See working limits table)
Flange max diameter	:	400 mm
Flange min diameter	:	90 mm
Seat lift measure contact less	:	0-150 mm ± 0,15 %
Flange thickness	:	Max 65 mm
Terminations allowed	:	RF, RJ
Clamping force control	:	Type 5 On/Off style - Hydraulic
Reference standard	:	ISO-API-ASME-ASTM
Pneumatic supply	:	6.5 bar @ 1100 Nl/min Dry air not lubricated
Electrical supply	:	3PH + G 380V@50Hz, 5.5KW
Dimensions (mech)	:	1100 (L) x 1250 (D) x 2150 (H) mm

✱Working limits with CLAWS CLAMPING

DN	½"	1"	2"	3"	4"	6"	8"
bar	1410	842	388	222	146	76	46

*Note: Showed data has been calculated considering nominal minimum bore size ANSI + 50mm. For further details please contact our technical department.
Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified. .

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

CB 1000

Cryogenic & Helium microleakage test benches

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CE

SKMA-100/CRYO CRYOGENIC TEST GAS PRESSURIZATION SKID

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Helium pressurization skid dedicated to cryogenic temperature leakage tests. Local instrumentation with/of 5 temperatures inside test vessel is included. Test is performed as requested by BS-6364 standard. A Serial interface channel allows the user to connect a personal computer to **TestREC-CRYO** certification software installed.

Max Working pressure He	:	1050 bar
Min Working pressure He	:	20 bar
GAS Booster opt	:	150:1
Process valve	:	"Metal to metal" needle valve & "soft seat" bypass valve
Process style	:	Bidirectional
HP Fluid allowed	:	Helium (He)
Control system	:	Manual valve & Electrical lighted pushbuttons installed on graphical synoptic panel
Pressure measure	:	4-20mA Pressure transmitter+7-seg Digital Display
Temperature measure	:	N°5 Temperature sensor
Ref. Standard	:	BS-6364 (CRYO TEST)
Serial Interface	:	RS-485 MODBUS PROTOCOL
Certification software	:	TestREC - CRYO
Seat leakage detection GAS	:	Volumetric bubbler
Process Connections	:	MP 1/4"
Service air supply	:	7bar @ 2000 Liters/min Other available on request
Electrical supply	:	2Ph+T 220V@50Hz 1KW Other available on request
Dimensions (mech)	:	700 (L) x 1120 (D) x 1120 (H) mm

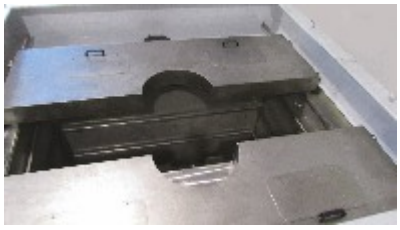
CE

SKMM-50/TC +CV MOVABLE CRYOGENIC TEST VESSEL WITH TEMPERATURE CONTROL PANEL

SKMM-100/GAS-B2

CB-1000

SKMM-50/TC



Cryogenic test vessel is now available with a temperature control panel.
On – off style temperature control is able to fix cryogenic bath temperature in the range of 0 / -196 °C.
Nr.5 temperatures transmitters are installed: 1 for bath temperature, 4 for customized applications.
All temperature signals are connected to the certification software **TestREC-CRYO**

Temperature control	:	Digital On/Off style
Temperature measure	:	Nr. 4 PT100
Temperature range	:	-196°C / +150°C
Exhaust Vapours trap	:	Included
Cryo Vessel Inner Dimensions	:	**CB-350** 350 Liters - 1000 (L) x 500 (D) x 700 (H) mm **CB-1000** 1070 Liters - 1500 (L) x 750 (D) x 950 (H) mm **CB-3000** 3000 Liters - 2000 (L) x 1000 (D) x 1500 (H) mm

CE

BV-5C-He/10

5-WAY AUTOMATIC PRESS CLAMPING
HIGH VACUUM MICROLEAKAGE GAS TEST

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

CLAMP TYPE 1

Vertical test bench with press clamping system for 5 valves ports (included inner seat).
It is able to perform Helium microleakage test on natural gas pressure reducer casting body.
Helium test is performed by pressurizing the casting at low pressure (5 bar abs) under high vacuum chamber.
The rig is able to catch leakages visible by high pressure gas test with soap bubbles detections.
This prerogative allows the customers to reduce operational risk avoiding expensive gas tests bunkers.
The rig is controlled by a **SKA-100/He** pressurization SKID.
Please read dedicated data sheets for further information.

Reaction force	:	**10 TON**
Products allowed	:	Natural GAS pressure reducer Range ½"-3" (DN15-DN80)
Max valve length	:	400 mm
Min valve length	:	140 mm
Max height	:	400 mm
Min height	:	140 mm
Terminations allowed	:	BW, RJ
Clamping style	:	Type 1 – Press Clamping 5 ways Inlet Outlet Top Bottom Inner SEAT
Electric supply	:	3PH + T, 380V@50Hz, 10KW
Dimensions (mech)	:	3500 (L) x 2500 (D) x 2200 (H) mm

5 way clamping

CE

BV-C-He/30

PRESS CLAMPING
HIGH VACUUM MICROLEAKAGE GAS TEST

CLAMP TYPE 1

Vertical test with a press clamping system. It is able to perform Helium microleakage test. Helium test is performed by pressurizing the valve at 1050 bar under a high vacuum chamber. The rig is able to catch leakages visible by high pressure gas test with soap bubbles detection (white spot).
An armored fairing system ensures operator safety. The rig is controlled by a SKA-100/He pressurization SKID. Please read dedicated data sheets for further information.

Reaction force	:	**30 TON** (10% minimum press clamping)
Products allowed	:	High pressure Valve / Fittings
Range	:	1/4" - 1"
Max valve length	:	200 mm
Min valve length	:	40 mm
Clamping style	:	Type 1 – Press Clamping
Electric supply	:	3PH + T, 380V@50Hz, 10KW
Dimensions (mech)	:	1400 (L) x 880 (D) x 3000 (H) mm

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

SKA-100/He

SKID for micro-leakage HELIUM tests for castings. It has been designed to control full automatic clamping rigs based on overpressure leak tests of "Integral Method – Vacuum Hood Test". Casting is pressurized at low pressure with helium (5 bar abs) and a vacuum chamber which is evacuated by an auxiliary pump and which is connected to a leak detector (spectrometer) is used as the hood. The search of escaping gas through leaks is converted in electrical signals which are immediately displayed. This method allows the detection of very small leaks and is especially suited for automatic industrial leak detection.
The skid includes a pre-test with air pressure drops to verify the absence of macro-leakages and an evacuation service pump to remove air from test pieces and recover helium (option).

He

High vacuum Pump (Vaccum Hood)	:	75 m^3/h @ $5x10^{-3}$ mbar MAX
Service vacuum pump	:	40 m^3/h @ 0.5 mbar
Max working pressure	:	1050 bar
Smallest detectable leak	:	1 x 10^{-7} mbar l s^{-1} (other on request)
Electric supply	:	3PH + T, 400V@50Hz, 10KW
Dimensions (mech)	:	600 (L) x 1300 (D) x 1700 (H) mm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LAB-40

LAB
Mobile workshop & worktrucks asset for valve repairs and tests

think' PC PROGETTI

CE

LAB-10
LAB-20
LAB-40

MOBILE WORKSHOPS FOR VALVE TEST & REPAIR

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Workshop unit built into a 10/20/40 feets container.
Mobile valve repairing workshop equipped with a complete tools set to repair & test valves onsite.
The unit makes all supply lines available (electrical & pneumatic) for a complete mechanical workshop.
Generators are installed in a separate container area, accessible from outside, separated from workshop area. It has 160x160 H-Beam structure, about 1 Ton capacity overhead crane with sliding beam running on a containers full length. A swing out crane installed on the entrance door ensures best access to the equipment. Here follows all the available equipment inside the workshops:

Electrical Power Generator	:	Diesel Engine generator, Silent type 380/220V 50Hz, 33KW 3PH & 2PH power sockets (4x)
Compressed air Generator	:	Electrical compressor Air Flow : 1400NL Max output pressure : 10 bar Power Supply : 400V-50Hz, 11 KW Air Reservoir : 300 l Vertical design. Refrigeration air dryer included
Air conditioning equipment	:	100m³/h with Hyper Filter system
Mechanical equipment installed	:	Compact floor drill Universal Center lathe machine Bench Grinder with Stand Electrical Hoist (1 TON) Adjustable torque wrenches. Impact drill machine Electric driven Straight grinder Mechanical Bench vice 8" Complete tools set for industrial maintenance. Universal workbenches Swing doors cabinets
Lifting Equipments	:	Over Head travelling crane 1 Ton capacity Swing Crane with 2m swing out arm 1 Ton capacity.
Non destructive test equipment	:	Magnetic particle inspection (MT) - Liquid Penetrants (PT)
Version Ex	:	Available on request (zone II)

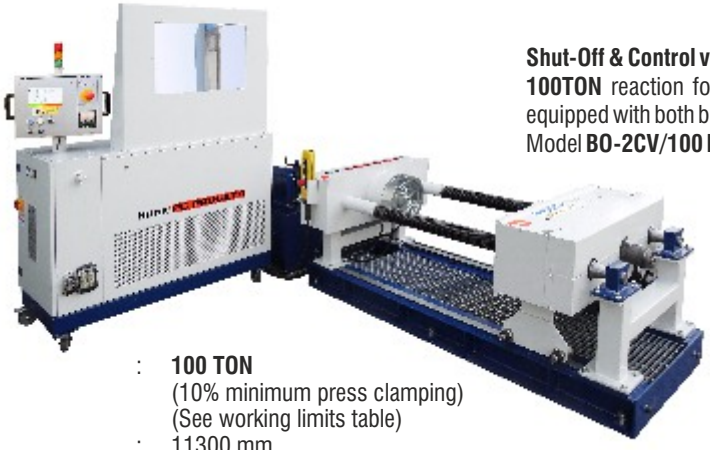
CE

		LAB-10	LAB-20	LAB-40
Electrical Power generator		NONE	NONE	Diesel Engine generator, Silent type 400V 50Hz, 45KWA 3PH & 2PH power sockets.
ELECTRICAL panel & LIGHTING		INCLUDED	INCLUDED	INCLUDED
Compressed air generator		NONE	NONE	Electrical compressor Air Flow : 1400NL Max output pressure : 10 bar Power Supply : 400V-50Hz, 11 KW
Air Dryer		Optional	Optional	Refrigeration type. Air flow: 100 m3/h, connection ¾", max inlet pressure 16 bar
Air TANK		NONE	NONE	300L, Vertical
Internal AIR distribution		INCLUDED	INCLUDED	INCLUDED
High pressure GAS generator		NONE External Supply Line	NONE External Supply Line	NONE External Supply Line
Air conditioner equipment		• 9,500 BTU • Dehumidification (Pts/Hr) 3.0 • 280 CFM	• 9,500 BTU • Dehumidification (Pts/Hr) 3.0 • 280 CFM	• 14000 BTU • Dehumidification (Pts/Hr) 3.0 • 420 CFM
Mechanical equipment installed		- Nozzle Remover MAX 6" - Portable Grinding & lapping machine - Universal work bench w/ vice 8" - Office bench - Tools Cabinets - Fire extinguisher.	- Nozzle Remover MAX 6" - Portable Grinding & lapping machine - Universal work bench w/ vice 8" - Office bench - Tools Cabinets - Fire extinguisher. - Impact drill machine Electric driven - Straight grinder - Complete tools set for industrial maintenance.	- Nozzle Remover mandrin MAX 12" - Portable Grinding & lapping machine - Grinding machine for GATE VALVES & SWING CHECK VALVES. - Universal work bench w/ vice 8" - Office bench - Tools Cabinets - Swing doors cabinets - Compact floor drill - Universal Centre lathe machine. - Impact drill machine Electric driven - Straight grinder - Complete tools set for industrial maintenance. - Fire extinguisher.
Lifting Equipments	Overhead travelling CRANE	NONE	0.5 TON w/Manual Hoist	1 TON w/Electrical Hoist (1 TON)
	Swing CRANE	0,5 TON w/Manual Hoist	0,5 TON w/Manual Hoist	1 TON w/Electrical Hoist (1 TON)
VALVE TEST EQUIPMENT		PSV test bench: **BV-M/60-LAB** Up to 6" Size	Control Valve test bench: **BO45-2CV/100-LAB** Up to 12" Size PSV test bench: **BV-M/60-LAB**	Control Valve test bench: **BO45-2CV/100-LAB** Up to 12" size PSV test bench: **BV-M/60-LAB**
Nondestructive test		Optional	Optional	Magnetic particle inspection (MT kit) & Liquid penetrants (PT kit).
Dimension	Std Size	**10'**	**20'**	**40'**
	External	2438 (L) x 2991 (D) x 2591 (H) mm	2438 (L) x 6058 (D) x 2591 (H) mm	2438 (L) x 11956 (D) x 2500 (H) mm
	Internal	2344 (L) x 2831 (D) x 2376 (H) mm	2344 (L) x 5898 (D) x 2376 (H) mm	2344 (L) x 11796 (D) x 2376 (H) mm
	Access door	2310 (L) x 2280 (H) mm	2310 (L) x 2280 (H) mm	2310 (L) x 2280 (H) mm
Superposition		Allowed – Max 2 units	Allowed – Max 2 units	Allowed – Max 2 units
Floor		Plywood with plastic coating, thickness 20 mm water resistant made tight with elastic resin Covered Chequered aluminium plate, 4mm thickness. Max load 1500 Kg/m2	Plywood with plastic coating, thickness 20 mm water resistant made tight with elastic resin Covered Chequered aluminium plate, 4mm thickness. Max load 1500 Kg/m2	Plywood with plastic coating, thickness 20 mm water resistant made tight with elastic resin Covered Chequered aluminium plate, 4mm thickness. Max load 1500 Kg/m2
CT Entrance & Window		1 Entrance door	1 Entrance door	1 Entrance door + 1 side door
Outside color		WHITE RAL 7035 & Blu RAL 5003	WHITE RAL 7035 & Blu RAL 5003	WHITE RAL 7035 & Blu RAL 5003
Working location		Onshore	Onshore	Onshore
Working temperature		0° - 45° C (others on request)	0° - 45° C (others on request)	0° - 45° C (others on request)

CE

BO-2CV/100-LAB DOUBLE SCREWED COLUMNS + CYLINDER COMBINED CLAMPING, LOW FLOW AXES HEIGHT

CLAMP TYPE 3



Shut-Off & Control valves test rig.
100TON reaction force, **Combined clamping**, horizontal test bench equipped with both bore plugs & proportional press clamping style.
Model **BO-2CV/100 LAB** & **SKM-100.**

Reaction force	:	**100 TON** (10% minimum press clamping) (See working limits table)
Max valve length	:	11300 mm
Min valve length	:	0 mm
Columns inner clearance	:	900
Flow axes height	:	650 mm from the ground
Basement water vessel	:	170 Liters
Terminations allowed	:	BW, SW, RF, RJ
Clamping style	:	Type 3 – Combined Inner radial clamping & Pressing clamping with Proportional control
Dimensions (mech)	:	2600 (L) x 1290 (D) x 910 (H) mm (Mechanical structure)

*Working limits for SHELL TEST with INNER RADIAL SEAL and PROPORTIONAL PRESS CLAMPING

DN		2”	3”	4”	6”	8”	10”	12”	14”	16”	18”
ANSI-150	TON										
ANSI-300	TON										
ANSI-600	TON										
ANSI-900	TON										
ANSI-1500	TON										
ANSI-2500	TON										

*Note: Indicated values have been calculated for shell test and with API-6D nominal minimum bore size and they have to be considered as reference only.
Press clamping style limits are based on bore size increased by 50 mm. For more accurate information please contact our technical department or consult the instructions book delivered along the rig.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

BV-M/60-LAB CLAWS CLAMPING LOW LOADING HEIGHT

CE

CLAMP TYPE 5

High Pressure air compressor up to 300 bar with 150 Liters reservoir vessel. Surge vessel 200 Liters for blow down supply

Reaction force	:	**60 TON** (See working limits table)
Max flange diameter	:	530 / 650 / 860 mm
Min flange diameter	:	90 mm
Max flange thickness	:	90 mm
Tilting angle	:	FIXED (not tiltable)
Basement water vessel	:	200 Liters
Terminations allowed	:	RF, RJ
Clamping style	:	Hydraulic cylinder w/claws Clamping force
Range	:	5..100 %
Electrical supply	:	3PH + T400V@50Hz, 2KW
Dimensions (mech)	:	1250 (L) x 700 (D) x 650(H) mm

*Working limits with CLAWS CLAMPING

DN	1”	2”	3”	4”	6”	8”	10”	12”	14”	16”
bar	700	700	452	340	191	122	85	62	43	35

*Note: Showed data has been calculated considering nominal minimum bore size ANSI + 50mm.
For further details please contact our technical department.
Table refer to mechanical LOAD only, compatibility about general valve dimension has to be verified.

CE

BV-M/25-LAB

TEST BENCH FOR WORKTRUCKS
CLAWS CLAMPING

CLAMP TYPE 5

Test rig with claws clamping.
Test of RF or RTJ valves could be executed in real working conditions.
The clamping is of hydraulic on/off type.
This prerogative makes it suitable for PSV valves and for flow valves.
It can be controlled by a standard pressurization skid; in the picture you can see mod. **SKMM-80**.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Note: Safety perimetric protection available as option - Bunker or Pit assembly asset available as option.

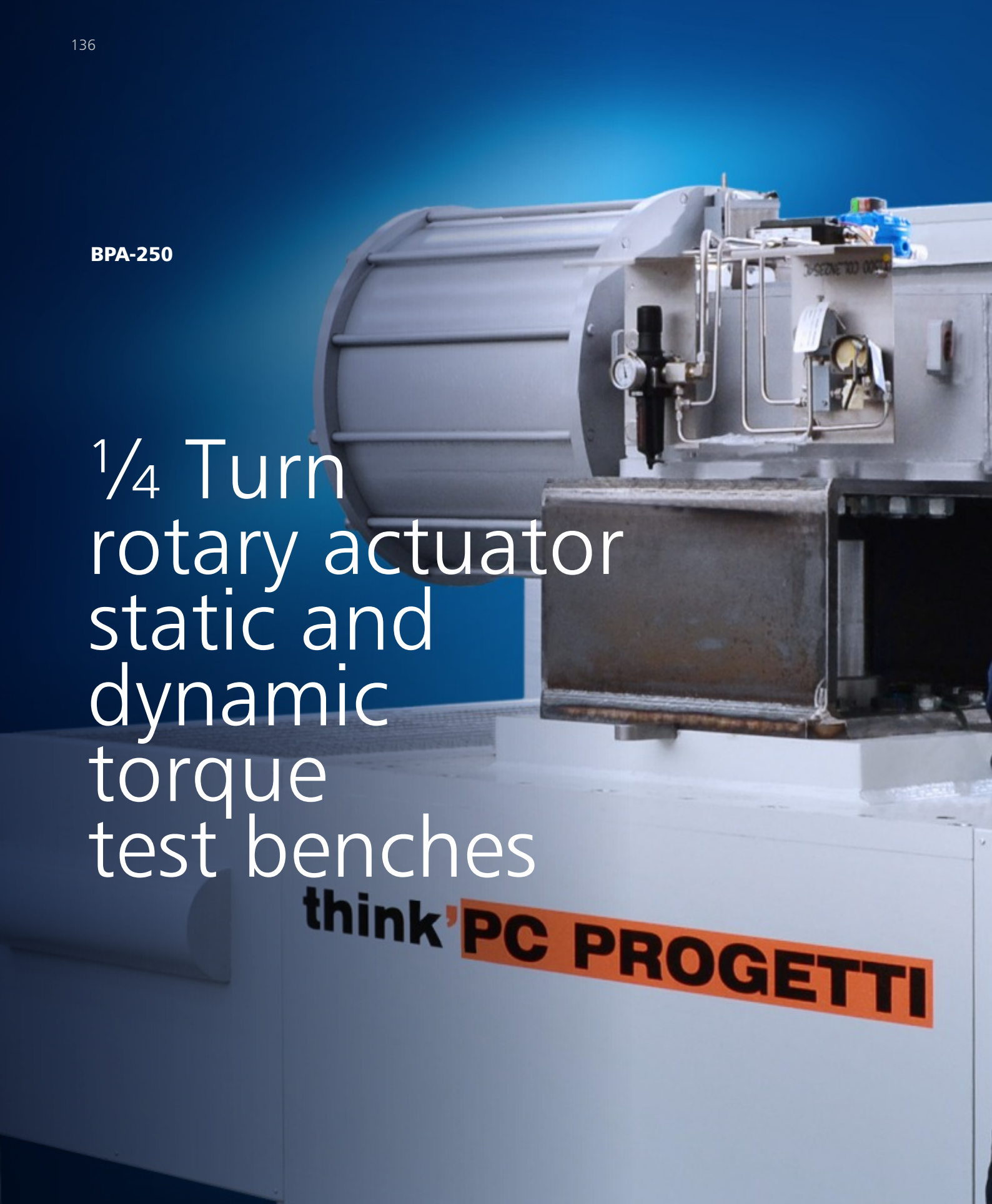
Reaction force	:	**25 TON**
Max flange diameter	:	Ø380
Min flange diameter	:	Ø80
Max flange thickness	:	Ø100
Terminations allowed	:	RF, RTJ
Clamping styleType	:	5 - hydraulic cylinder w/claws
Dimensions (mech)	:	1700 (L) x 670 (D) x 1390 (H)

***** Working limits with CLAWS CLAMPING

DN	½"	1"	2"	3"	4"	6"	8"
bar	300	300	300	300	180	95	58

(*) Note: Indicated values have been calculated considering nominal minimum bore size +30mm and they have to be considered as reference only.
For more accurate information please contact our technical office.

BPA-250



¼ Turn rotary actuator static and dynamic torque test benches

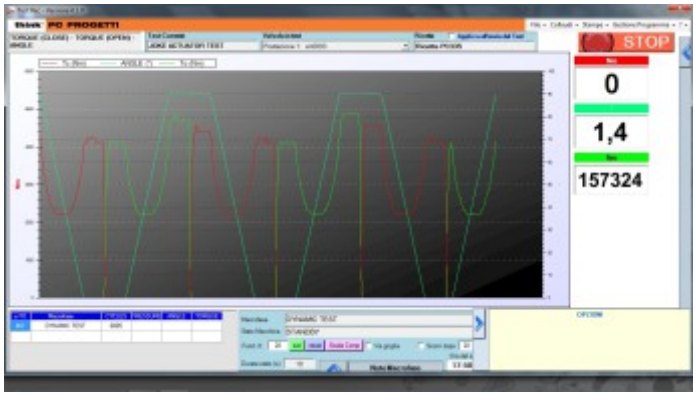
think'PC PROGETTI

CE

STATIC TORQUE PEAK MEASURE AND ENDURANCE DYNAMIC TEST

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences.[Patent Pending]

Scotch YOKE ¼ turn actuator test bench able to perform TORQUE tests in static positions and dynamic endurance full load simulation.
It is controlled by a **SKMM-100** pressurization skid and test data are collected by TestREC control software.



CE

BPA-400K
BPA-250K

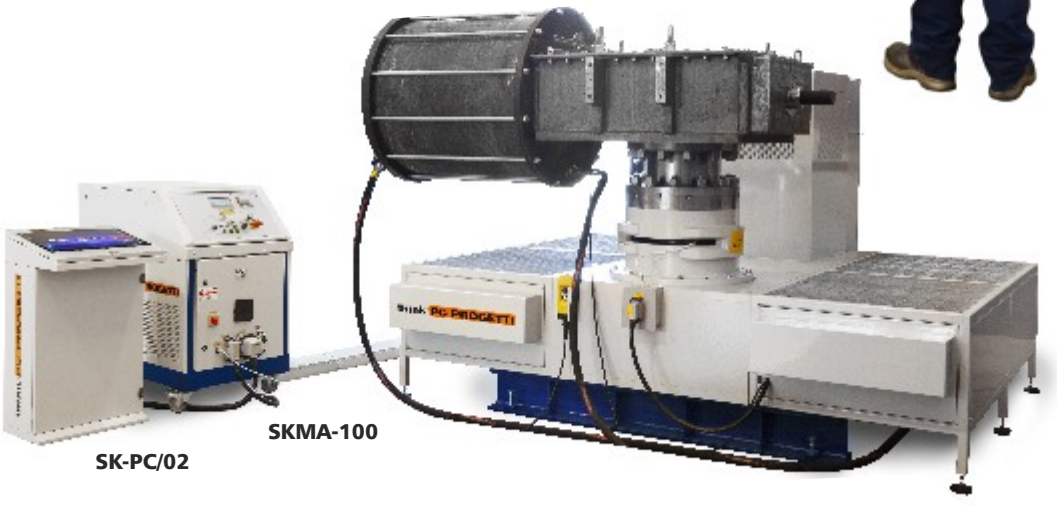
STATIC TORQUE PEAK MEASURE AND ENDURANCE DYNAMIC TEST

		BPA-400K	BPA-250K
Nominal TORQUE	:	400.000 Nm	250.000 Nm
Working range	:	10 – 100%	10 – 100%
Torque mesurement	:	Indirect (loading cell)	Indirect (loading cell)
Angle range	:	- 5.0° + 95.0°	- 5.0° + 95.0°
Bidirectional reaction force	:	INCLUDED	INCLUDED
Static torque measuring angle res.	:	0,1°	0,1°
General accuracy	:	0.5% F.S.	0.5% F.S.
Dynamic test simulation	:	Dynamic brake	Dynamic brake
Rotation speed	:	0,1 – 2,0 °/sec (Other on request)	0,1 – 1,5 °/sec (Other on request)
Dimensions (mech)	:	2700 (L) x 3600 (D) x 1600 (H) mm	2700 (L) x 2600 (D) x 1600 (H) mm

SK-PC/01

SKMA-100

BPA-400K



SK-PC/02

SKMA-100

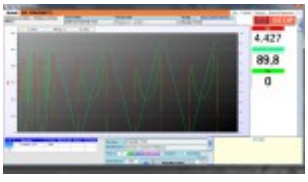
BPA-250K

CE

BPA-130K

STATIC TORQUE PEAK MEASURE
AND ENDURANCE DYNAMIC TEST

Scotch YOKE ¼ turn actuator test bench, able to perform TORQUE tests in static positions and dynamic endurance full load simulations.
It is controlled by a **SKMA-100** pressurization skid and test data are collected by TestREC-ACT control software.



BPA-130K **SKMA-100** **SK-PC/01**

BPA-130K

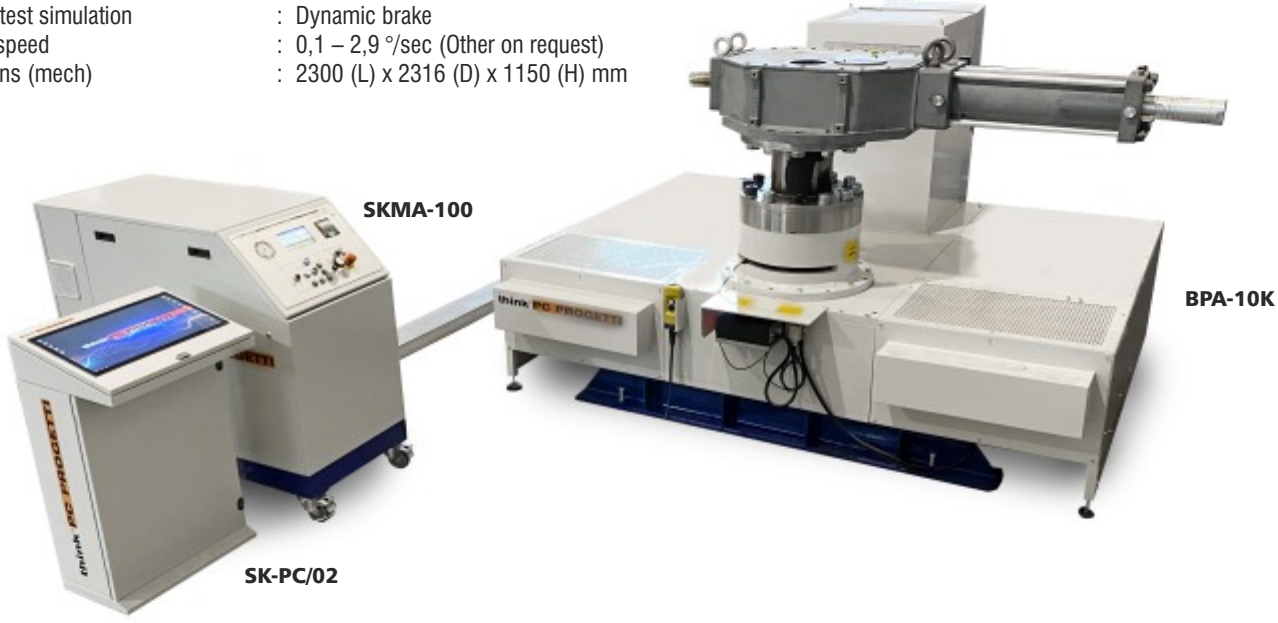
Nominal TORQUE	:	130000 Nm
Torque mesurement	:	Direct / Indirect
Working range	:	10 – 100%
Angle range	:	- 5.0° + 95.0°
Bidirectional reaction force	:	INCLUDED
Static torque measuring angle res.	:	0,1°
General accuracy	:	0.5% F.S.
Dynamic test simulation	:	Dynamic brake
Rotation speed	:	0,1 – 2,5 °/sec (Other on request)
Dimensions (mech)	:	2300 (L) x 2516 (D) x 1150 (H) mm

CE

BPA-40K
BPA-10K

BPA-40K

Nominal TORQUE	:	40000 Nm
Torque mesurement	:	Direct / Indirect
Working range	:	10 – 100%
Angle range	:	- 5.0° + 95.0°
Bidirectional reaction force	:	INCLUDED
Static torque measuring angle res.	:	0,1°
General accuracy	:	0.5% F.S.
Dynamic test simulation	:	Dynamic brake
Rotation speed	:	0,1 – 2,9 °/sec (Other on request)
Dimensions (mech)	:	2300 (L) x 2316 (D) x 1150 (H) mm

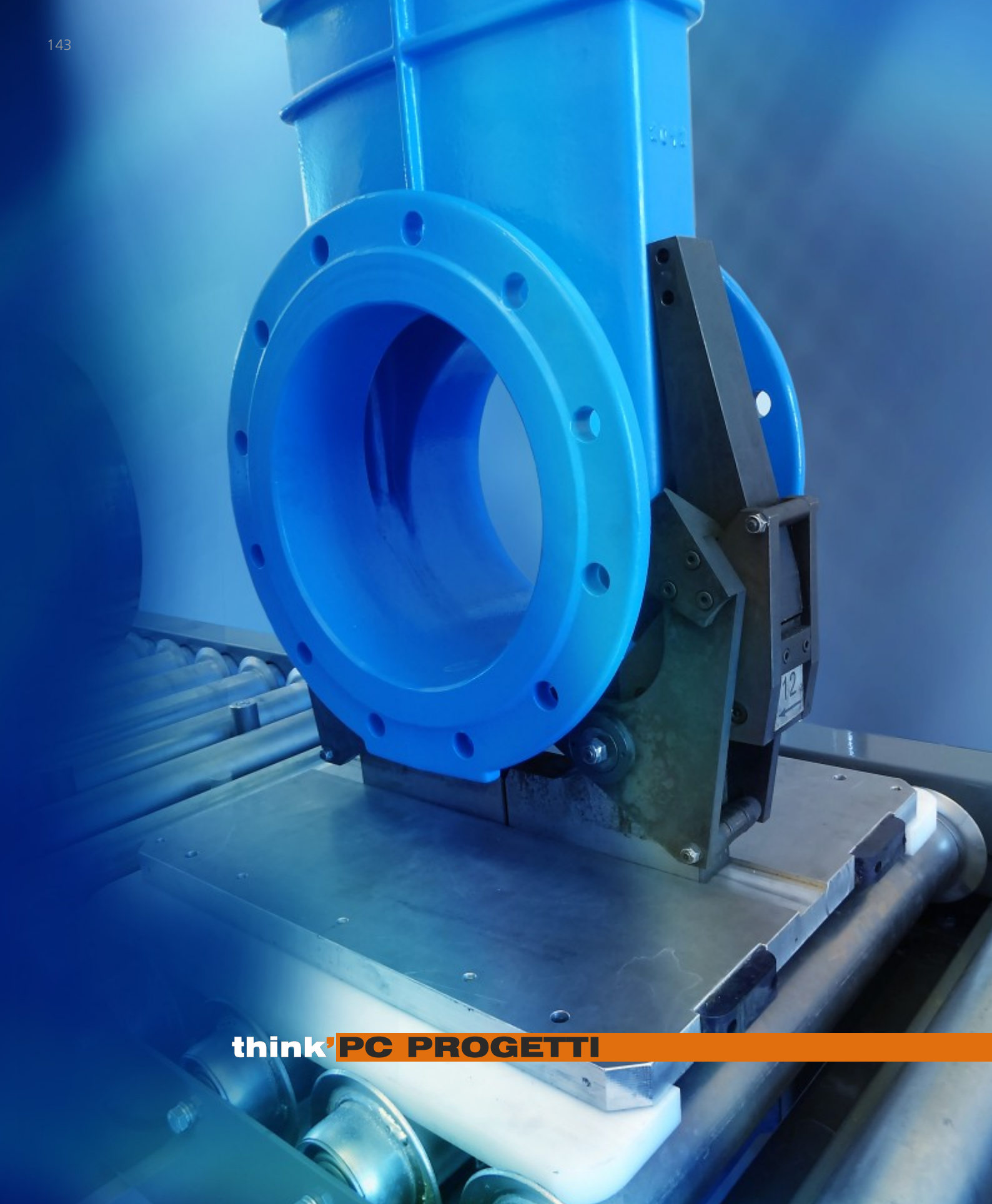


BPA-10K

Nominal TORQUE	:	10000 Nm
Torque mesurement	:	Direct / Indirect
Working range	:	10 – 100%
Angle range	:	- 5.0° + 95.0°
Bidirectional reaction force	:	INCLUDED
Static torque measuring angle res.	:	0,1°
General accuracy	:	0.5% F.S.
Dynamic test simulation	:	Dynamic brake
Rotation speed	:	0,1 – 3,5 °/sec (Other on request)
Dimensions (mech)	:	1540 (L) x 1770 (D) x 900 (H) mm

BO-CV/40SA

Special Applications & Pressurization Skids



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Special applications

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences.[Patent Pending]

SKC-100

ENDURANCE CYCLING
PRESSURIZATION SKID

Automatic skid for endurance tests on trunnion mounted ball valves. The system supplies a total leakage flow of 0.7L/min (0,5 L/min on downstream side + 0,2 L/min from cavity). A control system will be interfaced directly to a axial piston motor able to perform opening/dosing movements on valves under test with the adjustable torque. Cycling is controlled by a PLC and a configuration LCD touch screen.

Allowed fluids	:	H2O + oil em. 5%
Supply water pressure	:	2.5 - 8 bar
Max working pressure	:	250 bar
Accumulator	:	60 Liters
Compression ratio	:	60:1
Motor torque	:	4,52Nm/bar, MAX 45 Kgm
Connection	:	NPT 3/8"
Pressure measure	:	LCD Touch screen
Electrical supply	:	2PH + T, 220V@50Hz
Dimensions (mech)	:	600 (L) x 1150 (D) x 1500 (H) mm

SKMM-100/FS

FIRE SAFE TEST
PRESSURIZATION SKID

PRESSURIZATION SKID for FIRE SAFE TESTS
according to API-607 / API 589 / API – 6FA
This pressurization skid has all process equipment to perform FIRE SAFE tests on valves with stem packing or quarter turn shutoff valves. It has up to 8 thermocouples with calorimeter cubes (where necessary). Internal water reservoir of 120L. max working pressure 1600 bar. Full digital report through RS232 MODBUS RTU connection, data collection with certification software TestRECFS-M.

Allowed fluids	:	Plain water
Water reservoir	:	Internal 120 Liters
Max working pressure	:	700/ 1050/ 1380/ 1600 bar
Filling flow	:	70 Liters/min
Air driven booster ratio	:	1:100/ 1:150/ 1:225 / 1:250
Reference std	:	API-607 / API-589 / API-6FA
Temperature measure	:	Nr. 5 TC type K with Digital display
Pressure measure	:	Nr. 2 pressure transmitters with Digital Display.
Water level measure	:	Nr. 1 Pressure transmitter with Digital Display
Dimensions (mech)	:	600 (L) x 1150 (D) x 1500 (H) mm

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Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

SKMM-100/HC

HYBERBARIC CHAMBER
PRESSURIZATION SKID

Pressurization skid able to control a hyperbaric chamber.
Up to 10000 m depth simulation, with 40L volume compensation with high pressure accumulators.
PSV protection on max depth GAS & Water test facilities included.
Automatic Filling/Recovering of water into hyperbaric chamber.

Simulated depth	:	300M, 1000m, 4500 m, 7000 m, 10000 m
Compensated volume	:	10 Liters / 40 Liters / 200 Liters
Gas test	:	Up to 1000 bar
Water test	:	Up to 2000 bar
Filling flow	:	120 Liters / 470 Liters / 910 Liters/min
Dimensions (mech)	:	600 (L) x 1150 (D) x 1500 (H) mm

SKMM-100/UHP
SKMM-100/UHP2

ULTRA HIGH PRESSURE
PRESSURIZATION SKID

Ultra high pressure hydraulic pressurization skid, up to 10000 bar
High pressurization ratio liquid pump along with reliable needle valves makes this skid suitable for high pressure systems.
Emergency pressure release is included as well.

		SKMM-100 UHP	SKMM-100 UHP2
Allowed fluids	:	Water + Oil	Water + Oil
Max working pressure	:	5000 bar	10000 bar
Filling FLOW ability	:	1 Liters/min	1 Liters/min
Output connections	:	3/8" UHP	3/8" UHP
Internal liquid reservoir	:	50 Liters	50 Liters
Dimensions (mech)	:	700 (L) x 1120 (D) x 1120 (H) mm	700 (L) x 1120 (D) x 1120 (H) mm

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SKA-100/GAS AUTOMATIC GAS PRESSURIZATION SKID FOR BUNKERED TESTING BAY.

Automatic pressurization skid for BUNKER testing bay.
It is installed inside a bunker, but it is controlled by a console outside the safety perimeter.
The skid has been designed to perform GAS tests on process components, with a 2-step pressurization along with the possibility to perform VISUAL inspections of components, ruling the access to the protection bunker.
A certification software allows operators to collect all testing results and graphing waveforms, and configure the inputs with test parameters.

Note: Safety perimetric protection available as option
Bunker or Pit assembly asset available as option.

Max working pressure	:	450 / 700 / 1050 / 1550 bar
Test media	:	N2 - He
Gas booster	:	Air driven
Process style	:	Bidirectional seat test
Control system	:	Automatic & Manual (SCADA)
Leak Detection	:	Digital bubbles counter Mass flowmeters
Pressure measure	:	Digital w/ pressure port for master gauge
Digital interface	:	Ethernet LAN
Certification SW	:	TestREC®
Dimensions (Mech)	:	400 (L) x 1000 (P) x 1200 (H) mm

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BO-CV/40SA PRODUCTION LINE AUTOMATIC TEST

CLAMP TYPE 1

Think'PC PROGETTI's new test unit designed to perform high speed API / DIN full valve test procedures directly on 2 ways valve production lines.
Special product supports pallets rolling on conveyor, allowing perfect alignment. Clamping procedure is fully automatic with 4-axes positioning control, with proportional press clamping to reduce mechanical stress to minimum terms.
Valve Opening / Closing movements are even automatic, controlled by a torque programmable hydraulic actuator.
The rig is configured by TestREC Windows based software package that can store recipes and test data of each tested product.

Standard version is described. Test bench can be customized in any technical aspect in accord to client preferences. [Patent Pending]

Reaction force	:	**40 TON**
Max valve length	:	760 mm
Min valve length	:	90 mm
Loading height	:	1250 - 1500 mm (Automatic regulation)
Basement water vessel	:	100 Liters
Terminations allowed	:	RF, RTJ, BW, SW
Clamping style	:	Type 1 – with proportional (option)
Clamping force control	:	Proportional pressing
Reference standards	:	ISO, DIN, API, ANSI, ASTM, FCI, BS (Other on request).
Filling flow	:	70L/min
Vacuum pump	:	36m /h (Option)
Max pressure	:	100 bar (water) - 12 bar (AIR)
Pneumatic supply	:	7 bar @ 2000 Nl/min
Electric supply	:	3PH + T, 380V@50Hz,10KW (other on request)
Dimensions (mech)	:	2060 (L) x 1160 (D) x 4100 (H) mm

*Working limits for PRESS CLAMPING and INNER RADIAL SEAL ANSI VALVES, SHELL TEST

	DN	½"	1"	2"	3"	4"	5"	6"	8"
ANSI-150	TON								
ANSI-300	TON								
ANSI-600	TON								
ANSI-900	TON								
ANSI-1500	TON								
ANSI-2500	TON								
ANSI-4500	TON								

(*)Note: Indicated values have been calculated for **shell test** and with **API-6D** nominal minimum bore size + 30mm and they have to be considered as reference only. For more accurate information please contact our technical department or consult instructions book delivered along the rig

I4.0 READY

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Automatic pressurization Skid

SKA CLASS

	SKA-50	SKA-100/S	SKA-100	SKA-250
Max working pressure				
H_2O	700/ 1050/ 1380/ 1600 bar	700/ 1050/ 1380/ 1600 bar	700/ 1050/ 1380/ 1600/ 2068/ 4138/ 6897 bar	700/ 1050/ 1380/ 1600/ 2068/ 4138/ 6897 bar
N_2 / He	700 bar	-	200 / 450 / 700 / 1380 bar	200 / 450 / 700 / 1380 bar
Air	300 bar	- (SHV model: 0.998 / 0 bar)	200 / 450 bar	200 / 450 bar
Filling flow	**70 L/min** (from external line)	**70 L/min** (from external line)	**120 L/min**	**240 L/min**
Pressurization Power	0,4 / 1,5 HP	0,4 / 1,5 HP	1,5 / 3 HP	1,5 / 3 HP 3 / 6 / 9 HP
Vacuum pump opt.	Not available	36 m^3/h	36 / 80 m^3/h	80 / 160 m^3/h
Backseat test	Not available	Not available	Available	Available
Seat over pressure test	Not available	Not available	Available	Available
Operating HP test	Not available	Not available	Available	Available
DBB test opt.	Not available	Not available	Available	Available
GAS Test opt.	Not available	Not available	Available	Available
GAS Booster opt.	Not available	Not available	Available	Available
CAVITY test opt	Not available	Not available	Available	Available
Multistation opt.	Not available	Not available	Available	Available
Actuator control panel opt.	Not available	Not available	Available (option)	Available (option)
ATEX certification opt.	Not available	Not available	Ex II 2/3/- G c X	Available
Fluid allowed	Water, Water & oil mixture, Glicole, Ethanol (Atex), Methanol (Atex).			
Control system	PLC/LCD touch screen 7"	PLC/LCD touch screen 7"	PLC/LCD touch screen 7"/ 10"	PLC/LCD touch screen 7"/ 10"
Printer opt.	Available	Not available	Available - Thermal printer 24cln	Available - Thermal printer 24cln
Ref. Standard	API \ DIN \ BS \ FCI other on request	API \ DIN \ BS \ FCI other on req.	API \ DIN \ BS \ FCI other on request	API \ DIN \ BS \ FCI other on request
Eternet Interface	RJ45 10-100BASE-T	RJ45 10-100BASE-T RJ45 10-100BASE-T		RJ45 10-100BASE-T
Certification software	Option TestREC	Option TestREC	Option TestREC	Option TestREC
Teleservice VPN router	Available	Not included	Included	Included
Leakage detection:				
Air	ANSI Bubbler, Bubbles counter, Volumetric bubbler, Mass flowmeters			
Water	Water Column, Digital water column, Turbines flowmeters, accordin client preferences.			
Service air supply	7 bar @ 2000L/min Other available on request	7 bar @ 2000L/min Other available on request.	7 bar @ 2000L/min Other available on request.	7 bar @ 2000L/min Other available on request.
Electrical supply	3ph+T 400V@50Hz 1 KW Other available on request.	3ph+T 400V@50Hz 2.2 KW Other available on request.	3Ph+T 400V@50Hz 5,5KW Other available on request.	3Ph+T 400V@50Hz 6 KW Other available on request.
Dimensions (mech)	600(L) x 550(D) x 1000(H)	500(L) x 1000(D) x 700(H)	600(L) x 1300(D) x 1900(H)	600(L) x 1500(D) x 1900(H)

AUTO/MAN double control style (auto/man) available as option

CE

SKA-500	SKA-1000	SKA-2000	SKA-4000
700/ 1050/ 1380/ 1600 bar	700/ 1050/ 1380/ 1600 bar	700/ 1050/ 1380/ 1600 bar	700/ 1050/ 1380/ 1600 bar
200 / 450 / 700 bar	200 / 450 / 700 bar	200 / 450 / 700 bar	200 / 450 / 700 bar
200 / 450 bar	200 / 450 bar	200 / 450 bar	200 / 450 bar
470 L/min	**940 L/min**	**1880 L/min**	**3900 L/min**
3 / 6 / 9 / 12 HP	4,5 / 6 / 9 / 12 HP	6 / 9 / 12 HP	15 / 30 HP
80 / 160 m^3/h	160 / 240 m3/h	160 / 240 m^3/h	160 / 240 m^3/h
Available	Available	Available	Available
Available	Available	Available	Available
Available	Available	Available	Available
Available	Available	Available	Available
Available	Available	Available	Available
Available	Available	Available	Available
Available	Available	Available	Available
Available	Available	Available	Available
Available (option)	Available (option)	Available (option)	Available (option)
Available	Available	Available	Available
PLC/LCD touch screen 7"/ 10"	PLC/LCD touch screen 7"/ 10"	PLC/LCD touch screen 7"/ 10"	PLC/LCD touch screen 7"/ 10"
Available - Thermal printer 24cln	Available - Thermal printer 24cln	Available - Thermal printer 24cln	Available - Thermal printer 24cln
API \ DIN \ BS \ FCI other on request	API \ DIN \ BS \ FCI other on request	API \ DIN \ BS \ FCI other on request	API \ DIN \ BS \ FCI other on request
RJ45 10-100BASE-T	RJ45 10-100BASE-T	RJ45 10-100BASE-T	RJ45 10-100BASE-T
Option TestREC	Option TestREC	Option TestREC	Option TestREC
Included	Included	Included	Included
7 bar @ 2000L/min Other available on request.	7 bar @ 4000L/min Other available on request.	7 bar @ 4000L/min Other available on request.	7 bar @ 6000L/min Other available on request.
3Ph+T 400V@50Hz 7,5KW Other available on request.	3Ph+T 400V@50Hz 10KW Other available on request.	3Ph+T 400V@50Hz 10KW Other available on request.	3Ph+T 400V@50Hz 40KW Other available on request.
1300(L) x 1600(D) x 1900(H)	1250(L) x 1540(D) x 2400(H)	1300(L) x 2000(D) x 1900(H)	1300(L) x 3000(D) x 1900(H)

Hydraulic/pneumatic pressurization skid.
Controlled by a electronic PLC, configured by a LCD touch screen monitor whit double control styles: automatic and manual. Tests can be performed following test procedures programmed under the PLC control or by a manual activation of single process components (valves, pumps, ecc) through touch screen buttons. The PLC store test data, set-points, times and leak limits. The pressure set point is automatically reached. Leaks could be measured (option) by electronic bubble counter or precision water columns for H_2O leak (height measured by pressure transmitter). A vacuum pump could be installed (option) to assure the absence of air inside valves body before filling it with water; in order to reduce testing time and increasing operator's safety. All wet process components are stainless steel made and dimensioned for a working pressure of 700 bar (up to 4000 bar as option).
It has a high filling flow ability and the recovering of test fluid is automatic. Metal-to-metal needle valves assure high reliability. A 24 cln thermal printer (option) could be installed to print out a simple test report without connection to an external PC windows based supervision with certification software TestREC installed. The software and process option it has installed makes it compliant with the most widespread test standards.

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Semi automatic pressurization Skid

SKM CLASS

	SKM-100	SKM-250
Max working pressure		
H_2O	700 / 1050 / 1380 / 1600 / 2068 / 4138 / 6897 bar	700 / 1050 / 1380 / 1600 / 2068 / 4138 / 6897 bar
N_2	200 / 450 / 700 / 1380 bar	200 / 450 / 700 / 1380 bar
Air	200 / 450 bar	200 / 450 bar
Filling flow	**120 L/min**	**240 L/min**
Pressurization Power	1,5 / 3 HP	1,5 / 3 HP
Vacuum pump	36 / 80 m^3/h	36 / 80 m^3/h
GAS Test opt.	Available	Available
GAS Booster opt.	Available	Available
CAVITY test opt	Available	Available
Multistation option	Available 2 to 5 stations control	Not available
Actuator control panel opt.	Available (option)	Available (option)
ATEX certification opt.	Available	Available
Fluid allowed	Water, Water & oil mixture, Glicole, Ethanol (Atex), Methanol (Atex).	
Control system	Electrical lighted pushbuttons installed on graphical synoptic panel.	
Ref. Standard	API \ DIN \ BS \ FCI (other on request)	API \ DIN \ BS \ FCI (other on request)
Serial Interface	RS485 MODBUS PROTOCOL	RS485 MODBUS PROTOCOL
Certification software	Option TestREC	Option TestREC
Leakage detection		
Air	ANSI Bubbler, Bubbles counter, Volumetric bubbler	
Water	Water Column, Digital water column	
Service air supply	7 bar @ 2000L/min Other available on request.	7 bar @ 2000L/min Other available on request.
Electrical supply	3Ph+T 400V@50Hz 5KW Other available on request.	3Ph+T 400V@50Hz 5,5KW Other available on request.
Dimensions (mech)	600(L) x 1300(D) x 1900(H)	600(L) x 1500(D) x 1900(H)

Hydraulic/pneumatic pressurization skid. Semi-automatic control with command on a control console. Each process element (valves & pump) is controlled by the operator by luminous pushbuttons. Leaks could be measured (option) by electronic bubble counters or precision water columns for H_2O leak (height measured by pressure transmitter).

A vacuum pump could be installed (option) to assure the absence of air inside valve's body before filling it with water; in order to reduce testing time and increasing operators safety. All wet process components are stainless steel made and dimensioned for a working pressure of 700 bar (up to 4000 bar as option). It has a high filling flow ability and the recovering of test fluid is automatic. Metal-to-metal needle valves assure high reliability.
The “manual” nature of this skid allows the operator to perform test on valves (or test sequences) not contemplated into the reference test standards.

CE

SKM-500	SKM-1000	SKM-2000
700 / 1050 / 1380 / 1600 bar	700 / 1050 / 1380 / 1600 bar	700 / 1050 / 1380 / 1600 bar
200 / 450 / 700 bar	200 / 450 / 700 bar	200 / 450 / 700 bar
200 / 450 bar	200 / 450 bar	200 / 450 bar
470 L/min	**940 L/min**	**1880 L/min**
3 / 6 / 9 HP	3 / 6 / 9 / 12 HP	6 / 9 / 12 HP
80 / 160 m^3/h	160 / 240 m^3/h	160 / 240 m^3/h
Available	Available	Available
Available	Available	Available
Available	Available	Available
Not available	Not available	Not available
Available (option)	Available (option)	Available (option)
Available	Available	Available
API \ DIN \ BS \ FCI (other on request)	API \ DIN \ BS \ FCI (other on request)	API \ DIN \ BS \ FCI (other on request)
RS485 MODBUS PROTOCOL	RS485 MODBUS PROTOCOL	RS485 MODBUS PROTOCOL
Option TestREC	Option TestREC	Option TestREC
7 bar @ 2000L/min Other available on request.	7 bar @ 4000L/min Other available on request.	7 bar @ 4000L/min Other available on request.
3Ph+T 400V@50Hz 7,5KW Other available on request.	3Ph+T 400V@50Hz 10KW Other available on request.	3Ph+T 400V@50Hz 10KW Other available on request.
1250(L) x 1250(D) x 1900(H)	1300(L) x 1700(D) x 1900(H)	1300(L) x 2000(D) x 1900(H)

CE

Manual pressurization Skid

SKMM CLASS

	SKMM-10	SKMM-80/GAS	SKMM-100
Max Working pressure			
H_2O	700 / 1200 / 2100 / 4000 bar	-	700 / 1050 / 1380 / 1600 / 2068 / 4138 / 6897 bar
N_2 :	700 / 1050 bar	200 bar	200 / 450 / 700 / 1000 bar
AIR :	200 / 450 bar	200 bar	200 / 450 bar
Filling flow H_2O	10L/min (10L Internal TANK Included)	-	120 L/min
Vacuum pump	-	-	36 m^3/h (80 m^3/h on request)
DBB test opt.	Included	-	Available
GAS Booster opt	Available	-	Available
CAVITY test	Available	Available	Available
ATEX certification opt.	Available Ex II 2/3/- G c X	Available	Available
Process style	Bidirectional	Unidirectional	Bidirectional, with or without bypass valve
HP Fluid allowed	Water, Water & oil mixture. Glicole, Ethanol / Methanol (Atex)	GAS (N2, He, AIR)	Water, Water & oil mixture. Glicole, Ethanol (Atex). Methanol (Atex), GAS (N2, He, AIR)
Control system	Manual needle valve	Manual needle valve	Manual valve & Electrical lighted pushbuttons installed
Pressure measure	Analog gauge / Digital	on graphical synoptic panel 4-20mA Pressure transmitter + 7-seg Digital Display	on graphical synoptic panel 4-20mA Pressure transmitter + 7-seg Digital Display
Ref. Standard	API / DIN / BS / FCI	API / DIN / BS / FCI	API / DIN / BS / FCI
Serial Interface	RS-485 MODBUS PROTOCOL	RS-485 MODBUS PROTOCOL	RS-485 MODBUS PROTOCOL
Certification software	Option TestREC	Option TestREC	Option TestREC
Leakage detection			
AIR / GAS	-	ANSI Bubbler, Bubbles counter. Volumetric bubbler, Mass Flowmeters	ANSI Bubbler, Bubbles counter. Volumetric bubbler, Mass Flowmeters
Water	-	-	Water column, Digital water column, Turbine flowmeters.
Process Connections	BSPP ½ "-F / HP 1/4"-F	NPT 1/2"-F, HP 1/4"-F	BSPP 1"-F
Service air supply	7bar @ 2000 L/min Other available on request	-	7bar @ 2000 L/min Other available on request
Electrical supply	-	2Ph+G 220V@50Hz 1KW Other available on request	3Ph+G 380V@50Hz 3KW Other available on request
Dimensions (mech)	700(L) x 300(D) x 350(H)	600(L) x 800(D) x 1580(H)	700(L) x 1120(D) x 1120(H)

Hydraulic/pneumatic pressurization skid. Controlled by a electrical pushbuttons on a graphical synoptic panel or manual needle valves (GAS). Every process element is directly controlled by the operator; a main safety garrison for wrong maneuvers has been included. This makes the SKID very flexible to any testing procedure. Leaks could be measured (option) by electronic bubble counters, high accuracy water column (API), a turbine flow meter and a mass flow meter (FCI 70-2). A vacuum pump could be installed (option) to assure the absence of air inside valves body before filling it with water; in order to reduce testing time and increasing operator's safety. All wet process components are stainless steel made and dimensioned for a working pressure of 700 bar (4000 bar as option).

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SKMM-50/GAS/B2	SKMM-100/GAS/B2	SKMM-100/GAS/B3	SKMM-100/GAS/B4
-	-	-	-
200 bar	450 / 700 / 1380 bar	1050 bar	N2 60 / 200/ 700 bar contemporary,
200 bar	-	-	AIR 60 / 200 bar contemporary
-	-	-	-
-	-	-	-
-	Available	-	-
Available	Available	Available	Available
Available	Available	Available	Available
Available	Available	Available	Available
Bidirectional	Bidirectional	Bidirectional.	Bidirectional
GAS (N2, He, AIR)	GAS (N2, He, AIR)	GAS (N2, He)	GAS (N2, He)
Manual needle valve	Manual valve & Electrical lighted pushbuttons	Manual valve & Electrical lighted pushbuttons	Manual valve & Electrical lighted pushbuttons
on graphical synoptic panel	installed on graphical synoptic panel	installed on graphical synoptic panel	installed on graphical synoptic panel
Analog pressure gauge	4-20mA Pressure transmitter + 7-seg Digital Display	4-20mA pressure trasmitter + LCD	4-20mA pressure trasmitter + 7-seg Digital Display
API / DIN / BS / FCI	API / DIN / BS / FCI	API / DIN / BS /FCI	API / DIN / BS /FC
-	RS-485 MODBUS PROTOCOL	RS-232	RS-485 MODBUS PROTOCOL
-	Option TestREC	Option TestREC	Option TestREC
ANSI Bubbler, Bubbles counter. Volumetric bubbler, Mass Flowmeters	ANSI Bubbler, Bubbles counter. Volumetric bubbler, Mass Flowmeters	ANSI Bubbler, Bubbles counter, Volumetric bubbler.	ANSI Bubbler, Bubbles counter, Volumetric bubbler.
Water column, Digital water column, Turbine flowmeters.	-	-	-
BSPP ¼"	NPT 1/2"-F, HP 1/4"-F	NPT 1/2"-F / HP 1/4"-F / HP 3/8"-F	NPT 1/2"-F / HP 1/4"-F / HP 3/8"-F
-	7bar @ 2000 L/min Other available on request	7bar @ 2000 L/min Other available on request	7bar @ 2000 L/min Other available on request
2Ph+G 220V@50Hz 1KW	2Ph+G 220V@50Hz 1KW	2Ph+G 220V@50Hz 1KW	2Ph+G 220V@50Hz 1KW
Other available on request	Other available on request	Other available on request	Other available on request
600(L) x 600(D) x 1020(H)	700(L) x 1120(D) x 1120(H)	700(L) x 1120(D) x 1120(H)	1000 (L) x 1280 (D) x 2000 (H) Bullet-proof class BR6 dim. 900 (L) x 700 (D) x 700 (H)

Bunkers, Safety perimeters & Accessories

think' PC PROGETTI

Sandwich steel/wood modular protection panel

Modular protection perimeter assembly for CUSTOM DIMENSIONS example.

Sandwich panel STEEL / WOOD modular panels. Steel sheet various properties (EN1522) & wood thikness 100mm. 45° upper side spoiler (optional) available on request to reduce ejecting angles of valve components. Panels needs to be anchored to the floor with heavy series chemical studs.

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Bullet-proof inspection window (EN1063) is available on option for each panel. Module has standard sizes, but special dimensions are available on request :

Model Ref.	Prot. Lev.	Windows	Length (mm)	Height (mm)	Base depth (mm)
MPP-4/990x1990	Eq. FB1	BR1	990	1990	300
MPP-8/990X1990	Eq. FB2	BR6	990	1990	300
MPP-12/990X1990	Eq. FB4	BR6	990	1990	300
MPP-8/1490X2990	Eq. FB2	BR1	1490	2990	300
MPP-12/1490X2990	Eq. FB4	BR6	1490	2990	300

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Concrate modular bunker blocks

Concrate modular bunker blocks H=2400 Assembly example

Interlocking Concrete blocks that can be used to assemble a safety perimeter around a testing area. The access door is normally replaced by a “Labyrinth walk”, but on request it is possible to supply an access Steel door with a safety block device. Final painting can be performed after assembling according to customer preferences. In Literature, a 600 mm concrete wall thickness is able to resist to the highest bullet-proof tests according to UNI EN 1522 – FB7 class.

Shape	Dimension	Color	Weight
Long	1800 (L) x 600 (D) x 600 (H) mm	Not painted	1550 Kg
Medium	1200 (L) x 600 (D) x 600 (H) mm	Not painted	1040 Kg
Short	600 (L) x 600 (D) x 600 (H) mm	Not painted	520 Kg

NOTE: Easy assembly procedure allow final user to perform assembly without our assistance. Assembly design will be supplied along with bunker blocks.

Customized bunker protections

Our technical department can design specific bunker protection upon customers specific needs for test purposes.
Designed in accord to European rules for explosion proof & bullet-proof products.
Dimensioning, fabrication and installation on-site, will be under Think' PC PROGETTI responsibility; our ballistic calculation report and fabrication instructions can be submitted for manufacturing on-site by final users.
Fabrication details will vary upon product dimension and forecasted explosion energy.
A control system will rules the access to the dangerous area, including specific behaviour in case of mandatory “Visual inspection” required to fulfill test procedure.
Operators safety is the primary target to be always achieved in all test bench installations, and our technical department can help customers in this matter.

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Light safety perimeters (area delimiters)

Light perimeter protection with steel web welded together to support structure. Panel MUST be anchored to the floor.

Shape	Dimension	Color
Linear	1000 (L) x 60 (D) x 2200 (H) mm	WHITE - RAL 7035
Angular	500 (L) x 500 (D) x 2200 (H) mm	WHITE - RAL 7035
Gate (Swing)	2x1000 (L) x 60 (D) x 2200 (H) mm	WHITE - RAL 7035
Gate (Slide)	1500 (L) x 60 (D) x 2200 (H) mm	WHITE - RAL 7035

CCMP/200
AIR COMPRESSOR

CCMP/80
AIR COMPRESSOR

Air compressor skid.
It is formed by an electric 3 stage compressor able to pressurize ambiant air up to 330 bar as std.
Reservoir vessel and final pressure booster are available as options.
Maximum outlet pressure: 1000 bar.

		CCMP/200	CCMP/80
Outlet pressure	:	330 bar std	200 bar std
Flow ability	:	200 SL/min (8 min to pressurize 10 L vessel up to 200 bar).	80 SL/min (25 min to pressurize 10 L vessel up to 200 bar).
Final booster	:	Optional – Available on request	Optional – Available on request
Reservoir tank	:	150 L @ max 330 bar	50 L @ max 330 bar
Noise level	:	79 Db (ISO-3746)	91 Db (ISO-3746)
Electrical supply	:	3PH + T, 400V@50Hz, 5KW	2PH + T, 220V@50Hz, 5KW
Dimensions (mech)	:	900(L) x 2100(D) x 2100(H) mm	700(L) x700(D) x 2100(H) mm

SK-SC/01
TEST AREA VIDEO SURVEILLANCE SYSTEM

Control console for IP Cameras, with 3D positioning control device. Possibility to see test procedures even remotely over WAN connection, or on Smartphone App. Digital video recorder included with possibility to export video data on USB key or LAN connection. Safety Video detection alarm for unauthorized people in dangerous area.

- Nr. 4 HDCVI High definition Cameras, 30fps@1080P, Sensor 1/2.8" CMOS. Resolution 1920px(H)x1080px(V), 2MP, Motorized w/Fixed Iris Lens 2.7-12mm, Minimum illumination 0.005Lux/F1.8, 30IRE, 0Lux IR on. DORI Def. Observe Wide-19m, Tele-55m. Pan 0°-355°, Tilt 0°-75°, Rotation 0°-355°. Working temperature -30° +60°C. Protection IP67 & IK10.
- Nr.1 Monitor LCD 16:9 20.7"
- Nr. 1 Network keyboard & Dome Joystick position controller, 3D pos.
- Nr. 1 Digital video recorder,H.264+/H.264 dual-stream video compression, 4CH input max 8MP each, 1TB HD capacity (Max ex. To 8TB), HDMI / VGA output, USB 2.0, USB 3.0, Smartphone Network Android/Iphone/Ipad, Videodetection alarm included.
- Nr. 1 Console cabinet Dim. 717(L) x 595(D) x 1625 (H)

SK-PC/02
TOUCH SCREEN 24" COMPUTER CONSOLE

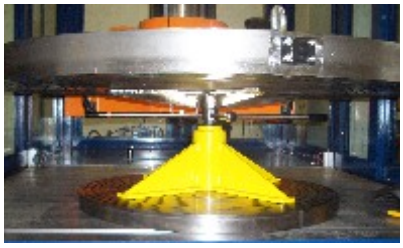
Console for industrial touchscreen Personal Computer. Ideal for workshop certification application w/Ethernet interface to workshop DB.
The console includes:
- Cabinet with ventilation equipment
- Panel PC Touchscreen

Personal Computer	: Intel quad core 2.0GHz- RAM 8GB – HD 500GB - SO Windows 10 professional
LCD screen	: TOUCH SCREEN Widescreen 24"-16:9 1920x1080 - contrast 1000:1
Electrical supply	: 220V@50Hz, 0.8KW
Dimensions (mech)	: 600 (L) x 500 (P) x 1000 (H) mm

CV-1200/ 1700/ 2200/ 2700
VALVE SUPPORT

CV-1200	700mm – 1200mm	1000kg
CV-1700	1000mm – 1700mm	1000Kg
CV-2200	1500mm – 2200mm	1000Kg
CV-2700	2200mm – 2700mm	1000Kg

PLT-600, PLT-2000
PLATEAUX LOADING TOOLS

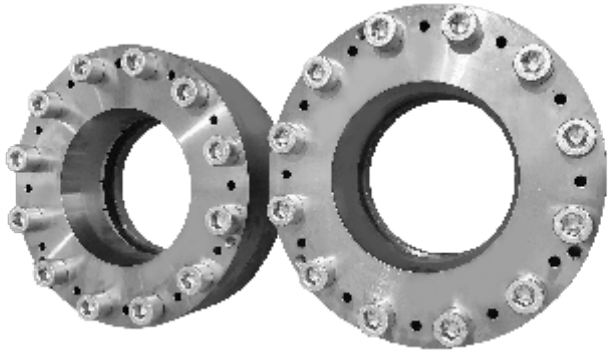


Plateaux loading tools. With these accessories it is possible to install sealing plateaux on vertical rig quickly and under high safety conditions.
It is available in 2 sizes: 600Kg – 2000Kg

IPLT-4000, IPLT-10000
HYDRAULIC PLATEAUX LOADING TOOLS

Plateaux loading tools. With these accessories it is possible to install quickly and in high safety conditions sealing plateaux on vertical rigs. It is designed to handle big size plateau.
Available in two sizes: 4000 Kg & 10000 Kg

AUTO-ADAPTIVE SEAL HEADS



Special seal heads designed to perform perfect hydraulic fasten of high-pressure tests performed on pipes or valve PUBS extensions, with considerable “not roundness” error (2% and above in special applications). Pipes can be inserted easily into seal heads and by hydraulic command, adaptive seals can modify their shape excellently to respect pipes profile.
Available in sizes range 2” to 56” and working pressure up to 1200 bar.

BPR-01
BORE PLUGS SUPPORT TOOLS

Adaptors range : ½"-12"
Termination : RF valves up to class #600

BORE PLUGS ADAPTORS

Bore plugs adaptors set to perform bore radial inner tightness for pressure tests.
Supplied with a dispenser structure. It is available for RF & BW ending valve:

Prt. Nr.	Range Size	Valve termination	Class
BPR-12-600-RF	½" – 12"	RF Up to Ansi	600 (*)
BPR-12-600-BW	½" – 12"	BW Up to Ansi	600 (*)

GAS SUPPLY PANEL

CONTROL PANEL FOR TECHNICAL
GAS SUPPLIES TO TEST BENCHES:
NITROGEN / HELIUM / AIR PRESSURE LINE

Equipped with: - Max inlet pressure 300 bar
- Pressure reducer 20-300 bar
- Shut-off valve for Output line
- Shut-off valves for Inlet line. - Shut-off for line discharge for maintenance purposes.
- Inlet / Outlet pressure gauges.
- Process command on the back of the panel to avoid undesired uses.

ACP-01
ACTUATOR CONTROL PANEL

Pneumatic Supply Sources	:	0-6 bar @ 3500 NL/min, w/analog indication (1x) 0-6 bar @ 340 NL/min, w/analog indication (2x) 6 bar, fixed supply DN 6mm (3x) 6 bar, fixed supply DN 12mm (3x)
Pneumatic Control Signal controls potentiometer	:	0-145.0 PSI @ 770NL/min with digital indication, 10 turns
Electrical Supply sources	:	0 – 260V @ 1A , with digital indication, 0 – 110V DC, with digital indication.
Electrical control signal potentiometer	:	0 – 30 V DC @ 3A with digital indication, 10 turns controls
controls potentiometer		0 – 21,0 mA @ 1200 ohm with digital indication, 10 turns
HART USB2.0 connection	:	Available on request.
Assembly asset	:	Fixed / Portable

ACP-02
AUTOMATIC ACTUATOR CONTROL PANEL

Pneumatic Supply Sources	:	0-6 bar @ 3500 NL/min, w/analog indication (1x)
Pneumatic Control Signal	:	0-145.0 PSI @ 770NL/min with digital indication, 10 turns controls potentiometer
Electrical Supply sources	:	220V @ 3A – 50Hz 115V @ 3A – 50Hz 24V @ 16A – 50Hz 24V @ 10 A - DC
Electrical control signal	:	- 0 – 10 V DC @ 20 mA with digital indication, 10 turns controls potentiometer - 0 – 21,0 mA @ 1200 ohm with digital indication, 10 turns controls potentiometer
End course switch test	:	Open / Closed
Valve step position sensor	:	contactless ultrasound sensor 0-150 mm – Rip. 0.05%
Automatic signal generation	:	variable angle ramp generation & position data-logger for position regulation hysteresis.
Data report format	:	PDF, Excel, 24cl thermal printer
Dimension	:	600 (L) x 430 (P) x 500 (H) mm

DIGITAL DATA-LOGGER

Portable digital recorder for pressure measures. Recorded data can be stored on a USB key. Certification software supplied along the unit, it can read encrypted data on USB data storage unit to print out full waveforms.

Number	:	Max 6 (see connection diagram)
A/D converter	:	24 bit delta.sigma
Sampling rate	:	Up to 6 channels: 125ms
Imput filter	:	Digital filter. 2nd order; filter constant can be set from 0 to 100 s
Galvanic isolation	:	See galvanic isolation

VALVES SIMULATORS

In order to perform properly a calibration of pressure transmitter installed on board, or to perform any troubleshooting on process piping of test bench, the “valve simulators” available.
Those accessories allow operator to pressurize circuit at maximum pressure rating, distributing the maximum working pressure in all components, and even simulate a “leak” in the circuit to verify detection sensibility and/or the accuracy of all installed flowmeters. Both shut-off & DBB simulator type are available. Model are defined upon maximum working pressure, test bench port bore size and DBB function availability.

SIM (bore) X (length) – (Wp)	Simulator shut-off valve
SIM (bore) X (length) – (Wp) / DBB	Simulator shut-off valve with DBB facilities

VB-1500
VOLUMETRIC BUBBLER

Measurable volume : 1500 mL
Max working pressure : 2 bar
Fluids allowed : H_2O / Alcool

MASTER AIR / WATER FLOWMETER

Master digital mass-flowmeters or variable area analog flowmeters available in custom full scale, for both gas or water media.

DMG-01
DIGITAL MASTER PRESSURE GAUGES

High accuracy digital pressure gauges class 0.25% FS or 0.1% FS. Calibrations report included.

BC-01
PORTABLE DIGITAL BUBBLES COUNTER

Portable digital bubbles counter. This impedance variation detector amplifier is able to detect bubbles release from ¼" glass pipe .

Leak Flow : max 3 bubbles /sec
Connections : BSPP ¼"
Electrical supply : 2PH + T, 220V@50Hz, 100W
Dimensions : 220 (L) x 268 (D) x 95 (H) mm

MC
ANALOG MASTER PRESSURE GAUGES

High accuracy pressure gauges class 0.25% FS equipped with knife index & back side mirror, to cancel parallax reading error. Connections are UNI ISO 228/1 G1/2" type. There are several full scales models:

Prt. Nr.	Connection	FS (bar)	Class
MC10-1	G ½"	10	0.25% F.S.
MC60-1	G ½"	60	0.25% F.S.
MC250-1	G ½"	250	0.25% F.S.
MC400-1	G ½"	400	0.25% F.S.
MC600-1	G ½"	600	0.25% F.S.
MC1000-1	G ½"	1000	0.25% F.S.
MC1600-2	G ½"	1600	1% F.S.

HIGH PRESSURE NEEDLE VALVES WITH PNEUMATIC ACTUATOR

Compact and very efficient needles valve, metal-to-metal seal, made in AISI-316L / AISI-630, suitable for liquid & gas process use. No rotating stem. Glass & graphite filled PTFE packing seals are available to comply with different working temperatures ranging from –196°C to 315°C (from –320°F to 600°F).
Equipped with double effect pneumatic actuator. Available in the following sizes and working pressures:

Prt. Nr.	Size	Connection	Orifice (mm)	Max W.P. (PSI)	Piloting pressure
VSA1/4-6K	¼"	NPT ¼" F	Ø5.5	6000	8 bar
VSA1/4-10K		NPT ¼" F	Ø5.5	10000	8 bar
VSA1/4-20K		MP ¼" F	Ø5.5	20000	8 bar
VSA1/4-30K		HP ¼" F	Ø3.2	30000	8 bar
VSA1/4-60K		UHP ¼" F	Ø2.0	60000	8 bar
VSA3/8-6K	⅜"	NPT ⅜ " F	Ø5.5	6000	8 bar
VSA3/8-10K		NPT ⅜ " F	Ø5.5	10000	8 bar
VSA3/8-20K		MP ⅜ " F	Ø5.5	20000	8 bar
VSA3/8-30K		HP ⅜ " F	Ø3.2	30000	8 bar
VSA9/16-6K	9/16"	NPT 9/16" F	Ø8	6000	8 bar
VSA9/16-10K		NPT 9/16" F	Ø8	10000	8 bar
VSA9/16-20K		MP 9/16" F	Ø8	20000	8 bar

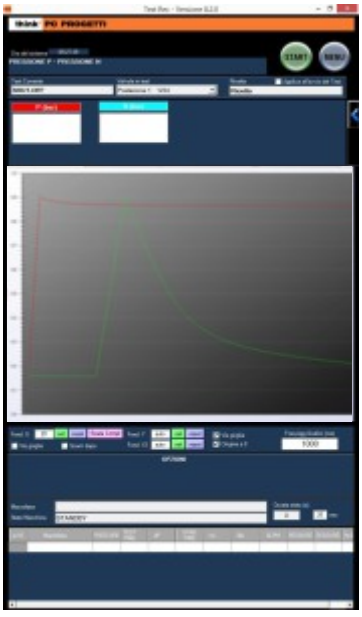
HIGH PRESSURE NEEDLE VALVES

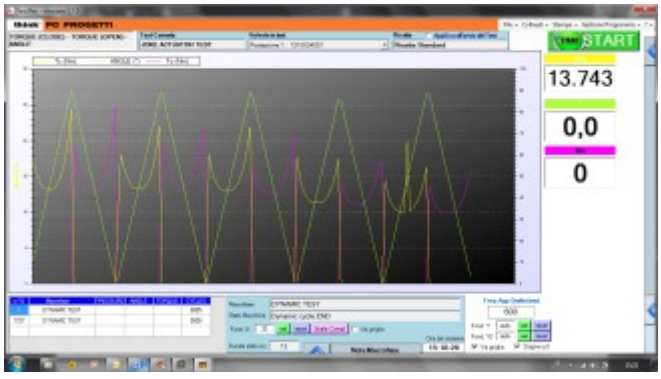
Lever needle valves, metal-to-metal seals, made in AISI-316L / AISI-630.
Suitable for liquid & gas process use. No rotating stem. Glass & graphite filled PTFE packing seals are available to comply with different working temperature ranging from–196°C to 315°C (from –320°F to 600°F). Available in the following sizes and working pressures:

Prt. Nr.	Nominal Size	Connection	Orifice (mm)	Max W.P. (PSI)
VS1/4-10K	¼"	NPT ¼" F	Ø5.5	10000
VS1/4-20K		MP ¼" F	Ø5.5	20000
VS1/4-30K		HP ¼" F	Ø3.2	30000
VS1/4-60K		UHP ¼" F	Ø2.0	60000
VS3/8-10K	⅜"	NPT ⅜ " F	Ø5.5	10000
VS3/8-20K		MP ⅜ " F	Ø5.5	20000
VS3/8-30K		HP ⅜ " F	Ø3.2	30000
VS9/16-6K	9/16"	NPT ⅜ " F	Ø8	6000
VS9/16-10K		NPT ⅜ " F	Ø8	10000
VS9/16-20K		MP ⅜ " F	Ø8	20000

TestREC

A COMPLETE, POWERFUL AND FLEXIBLE APPLICATION TO CREATE YOUR TEST CERTIFICATE





USABLE WITH ALL Think'PCprogetti TEST BENCHES

TestRec is the bundle software for all Think'PCprogetti test benchs:
- MODBUS INTERFACE for SKM skids
- SYSWAY INTERFACE for all SKA with Ethernet or RS232 communications.

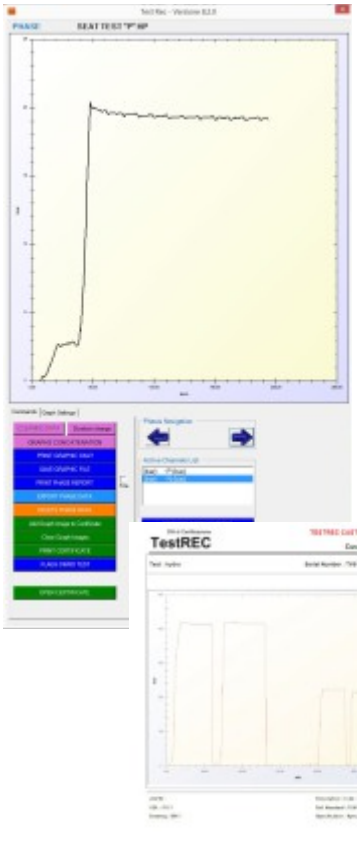
Simple to use and configure, it provides a complete set of tools to allow the operator a complete test control and certificate.

SOFTWARE MAIN FEATURES

- Up to 10 channels simultaneously retrieved
- Multi-threaded process to ensure continuity of data reading in conjunction with the graphical display
- Management of the double Y axis graph in real-time and historical data
- English, Spanish, French, Russian and Italian languages
- Database management with integrated data backup and restore
- Compatible with all Windows versions from WIN XP SP3
- Pressure vs. time, Temperatures vs. time Zoom, Hold and auto-stop registration ability indications of simmer point, POP pressure, blowdown range, pressure drop
- Leak calculation tool
- Certifications export in PDF format
- Data exports in XLSX, TXT, CVS
- Customizable on request

THE SOFTWARE FOR ALL YOUR NEEDS IN VALVE TEST

TestRec allows a full test result control:
- The data collected by the PLC is stored in real time and showed up to 7 channels simultaneously in a clear and simple chart window
- The chart window design allows the test bench full control at a glance by the operator and the immediate recognition of potentially critical situations
- Any data channel of any test performed at any time can be retrieved and showed in clear and exhaustive charts
- The operator can decide whether to use one preinstalled process configuration (recipes) or manually arrange and save any setting of the test bench in the database in order to create his own recipes.
- There are several working options and a useful setup utility to verify the accuracy of pressure transmitters installed on the skid
- All types of tests are supported in a wide certificate type selection
- Wide range of reports available
- Full customization service also available to fit all your needs
- Graphs concatenations to show multiple test results
- Customized certificate for all test types
- Full data control and manipulation
- A wide selection of data export tools



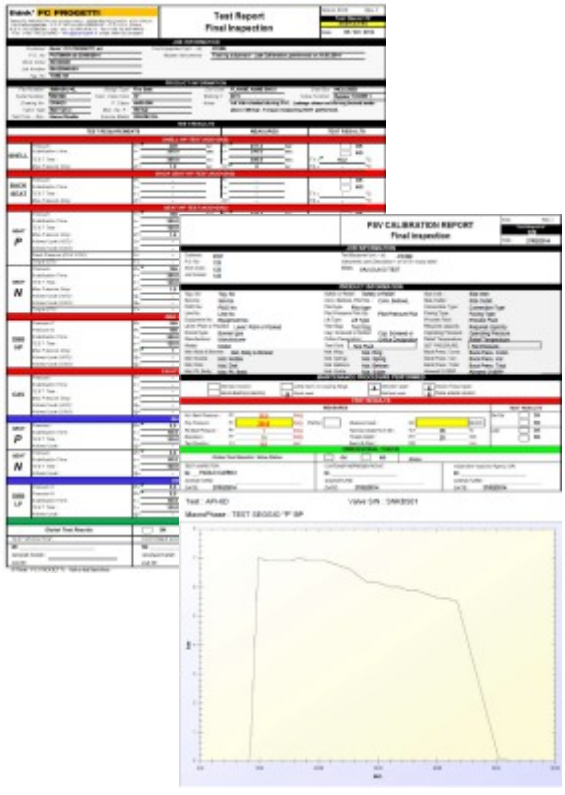
FULL CONTROL OF YOUR TEST
TestRec provides a complete tool to create your recipes to customize all the phases of your test*:
- Duration time
- Stabilization and pressurization time
- Operating pressure for any valve test, low and high pressure.

All the test options (Hold, Vacuum, Linear Oil and so on) could also be simply managed.
* depending on the skid type

Technical prerequisites (recommended)

Operative System	:	Microsoft Win XP / 7 / 8 / 10 *
RAM memory	:	4GB *
Video Card memory	:	512 MB *
Processor	:	Core 2 Duo 2GHz or equivalent *
Screen Resolution	:	1440x900px-1680x1050px (optimal) *
Hard - Disk	:	4GB free space *

* all parameters or higher



NOW THINK'PCPROGETTI'S TESTREC SOFTWARE IS "INDUSTRY 4.0" READY.

TestRec WEBApi is a simple, easy to use add on that matches all requests needed for "Industry 4.0" compliance.
TestRec WebApi is a fully standard communication protocol service (HTTP, XML) that can be queried by the management/accounting software to read or write all information about the status of the installation:
- Complete valve master data
- Recipe details
- Full analysis of tests performed and results
- Machine status and status counters

And much more.

The service uses the HTTP standard as a communication protocol and XML with UTF8 decoding for formatting structured data in output and input.
TestREC WebApi meets all standards set by the HTTP communication protocol (RFC 2616), providing a standardized product, based on a data exchange infrastructure that adapts to the aspects of the "Industry 4.0" standard.

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