IWTT

International West Technology Transfer Co.

Control Valves
High Performance Test Bench

Welcome to the Art of Control Valves Technology

Control Valves High Performance Test Bench

Specification:

Double screwed column + cylinder.

Combined clamping inner radial seal + proportional press control.

Horizontal test rig with combined clamping style: inner radial seal + proportional 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 pressing clamping with or without proportional control.
This prerogative makes it conform to the most diffuse international test standards.
The rig is controlled by pressurization skid; to have more information about please consult dedicated technical data sheets.

Hydraulic/pneumatic pressurization skid

Controlled by electronic PLC configured by LCD touch screen monitor.
Logic could store test data, set-points, times and leak limits. Pressure set point is automatically reached.
Leak could be measured by electronic bubbles counter or precision water column for H_2O leak (height measured by pressure transmitter).
Vacuum pump could be installed to assure the [Patent Pending] absence of air inside valve's body before filling it with water; in order to reduce test time and increase operator's safety.
All wet process components are stainless steel made and dimensioned for a working pressure of 700 Bar”g”.
It has a high filling flow ability and the recovering of test fluid is automatic. Metal to metal needle valves assure high reliability.
A 24cln thermal printer could be installed to printout a simple test report without connect an external PC windows based supervision with certification software **estREC2.0** installed.
The software and process option it has, make it compliant with the most diffuse test standards.

"Smart's Art of Control Valves"

Pressure Skid

<table>
<tr><td>Control type</td><td>AUTOMATIC – System controlled by electronic PLC and LCD touch screen monitor. A software procedure guides the operator through test procedure in a step by step sequence. Operator can repeat or jump single test according to his conveniences.
Test report can be printed out as ticket from without the use of PC. All test parameters (pressure levels, thresholds, testing time est.) can be inserted through LCD touch screen monitor.</td></tr>
<tr><td>Reference Standard</td><td>API 6D , API598, ANSI/ASME B16.34 & FCI 70-2</td></tr>
<tr><td>Thermal Printer</td><td>Included – 24Cln (printer to printout TEST TICKET)</td></tr>
<tr><td>Pc Console</td><td>INCLUDED</td></tr>
<tr><td>Certification Software</td><td>INCLUDED – TestREC7.3</td></tr>
<tr><td>Valve kind to test</td><td>Shut-Off valves / Control Valves 2 ways</td></tr>
<tr><td>Skid Process Valves</td><td>Metal to Metal seated valve + bypass high flow soft seat All wet parts are made in AISI-316 stainless steel.</td></tr>
<tr><td>Pressure measure</td><td>Pressure transmitter 4-20mA, FS. 700 bar, accuracy 0.1% F.S.
Pressure ports are available for external sample analogue manometer.</td></tr>
<tr><td>Leak Detection Instrument</td><td>
<table>
<tr><td>Test</td><td>Instrument</td><td>Descriptions</td></tr>
<tr><td>Cl. II to IV Seat leakage
with water</td><td>Digital flow meters</td><td>Turbine flow meters:
300 –3000 ml/min res. 2.5 cc
1500 – 20000 ml/min – res. 8cc
+ DRAIN</td></tr>
<tr><td>Cl. IV Seat leakage
with AIR</td><td>Digital flow meters</td><td>Mass flow meters:
0 – 10 SLPM acc. 1.5%
0 – 150 SLPM acc. 1.5%
+ DRAIN</td></tr>
<tr><td>Cl. V Seat leakage
Test with WATER</td><td>Water column
DIGITAL flow meter</td><td>Max. height: 1000 mm
Resolution: 1mm (0.1 ml)
Max. flow: 0.01 – 70,00 ml/min</td></tr>
<tr><td>Cl. VI Seat leakage
test with AIR</td><td>DIGITAL
Bubbles counting</td><td>Digital bubbles counter:
Max. 3 bubbles/sec</td></tr>
</table>
</td></tr>
<tr><td>Allowed Fluids</td><td>- Water w/ synthetic oil mixture up to 4% of volume – transparent type / AIR / N2</td></tr>
<tr><td>Working Pressure</td><td>
<table>
<tr><td>3.5 - 700 Bar"g"</td><td>with H_2O</td></tr>
<tr><td>0.5 - 7 Bar"g"</td><td>with Air</td></tr>
<tr><td>1 – 700 Bar"g"</td><td>With Gas (W/Bore plugs only)</td></tr>
</table>
</td></tr>
<tr><td>Actuator Control Panel</td><td>- 220V-50Hz 16A Magnetotermic & differential 30mA prot.
- 24V / 48 V DC with On/Off selector and signal light
- 0-21mA DC signal generator w fixed step @ 4/8/12/16/20 mA
- 0-50mA generator.
- 0-20 PSI generator
- 0-100 PSI generator</td></tr>
</table>

“Smart’s Art of Control Valves”

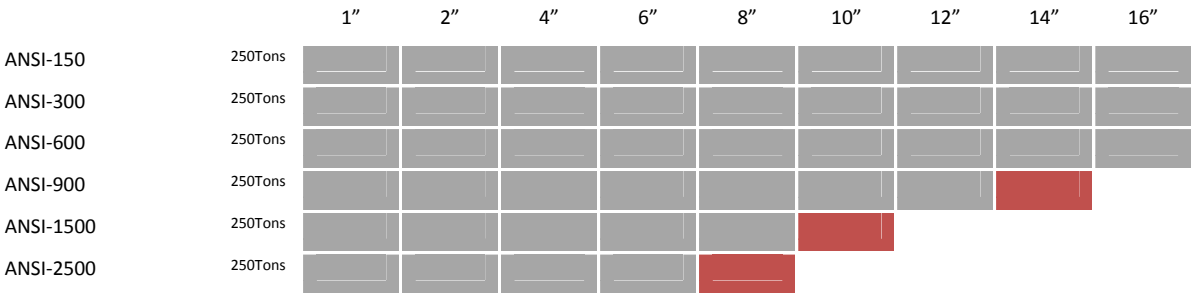
Available test session:

Item	Description	Pressure range	Test Fluid
1	Shell test	3.5 – 700 Bar”g”	H2O + synthetic oil 5% /GAS
2	Leak Test – Seat (P side) high pressure	3.5 – 700 Bar”g”	H2O + synthetic oil 5% /GAS
3	Leak Test – Seat (N side) high pressure	3.5 – 700 Bar”g”	H2O + synthetic oil 5% /GAS
4	Leak Test – Seat (P side) Low pressure	0.5 – 7 Bar”g”	Air
5	Leak Test – Seat (N side) Low pressure	0.5 – 7 Bar”g”	Air

Mechanical structure:

Rig type	HORIZONTHAL – DOUBLE REACTION SCREW Valve flow axis is parallel to soil Reaction columns 30° respect soil. Suitable for accommodation of by-pass valves	
Clamping style	**Type 3 : COMBINED** Proportional Pressing & Inner radial bore  **“ Inner radial bore seal” (Bore plugs) without any external effort on valve body “Proportional Press” with seal on flat face, Pressing force is controlled by PLC to reduce effort on valve body at minimum terms.**	
Total reaction power	13 - 250 TON	Proportional Press
	0 – 250 TON	Bore plugs
Valve flange ø/ Inner columns distance ø	900 max	mm
Min. valve length	0	mm
Max. valve length	1500	mm
High of valve axis from soil	1200	mm
Basement water tank capacity	300	L
Rig Movements Control	Hand Keyboard	
Plateau for RF valves	INCLUDED: O-ring Seal adaptors for flanged valves Range ½”-16” – ADAPTORS for small valve size INCLUDED	
Bore Plugs	INCLUDED	
Protection Bellows	INCLUDED	
Lifter Trollies	INCLUDED	
Protection / Safety	Interlock safety command to avoid accidental opening with valve under pressure	

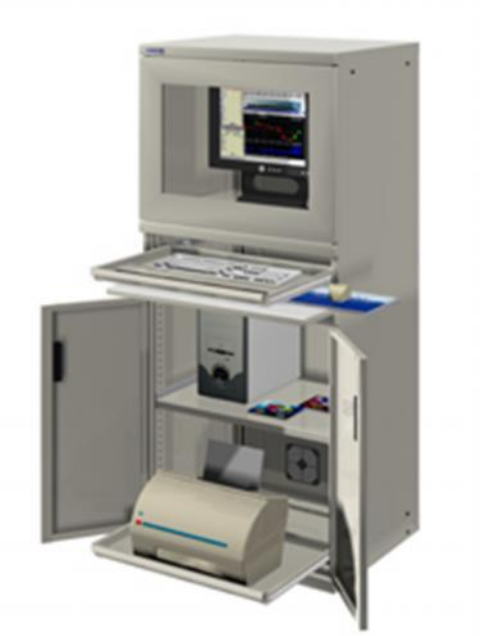
(*) Operative limits for Pressing Clamping & Bore Plugs Radial Seals Bore



(*)Note: Indicated values has been calculated for shell test and with API-6D nominal minimum bore size (added by 50mm in case of press clamping) and they have to be considered as reference only. For more accurate information please contact our technical office or consult instruction book delivered along the rig.

“Smart’s Art of Control Valves”

Computer Console



Description:

Console for windows personal computer.
Ideal for workshop certification application.
-Digital reading of test pressure.
-STORING of test data & valve specification.
-Input all data for documentation of test data (for example: manufacturer, valve type, number of valve, technical data, etc.)
-Transferring data in database on hard disk.
-Graphical elaboration for Graph combination (Useful for API-6A repetition).
-Graphical elaboration for graphical correction of waveform.
-Customization of printed report: Company logo adding, special data, etc.
-Printing of TEST CERTIFICATION.

-Printing of Specific test report with a Pressure Vs time graph full A4 page.
-Export data in EXCEL readable file.
-Automatic configuration of test rig by “Product DB” to set up testing time & thresholds automatically.
-Password protection.
-Registration of measuring data.
-POP UP pressure & leakage test of PSV Valves.
-Setup of tolerance for programming of range of pop up pressure for PSV

COMPONANTS:

Personal Computer:

Processor Intel Core 2 Dou E7500(2.93GHz, 1066MHz, 3MB) – So Windows 7 Professional HD 320 GB Serial ATA (7,200 Rpm) – RAM 3GB

LCD screen:

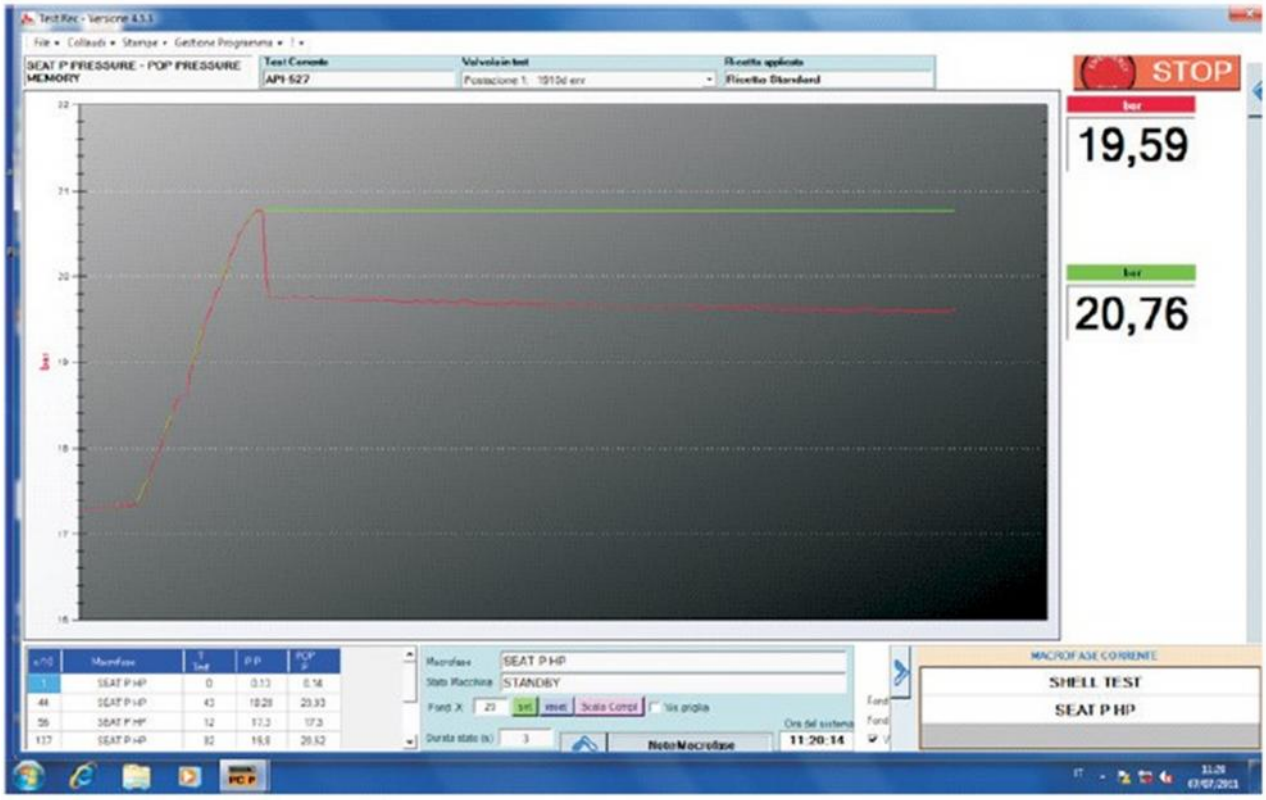
Widescreen 18.5 E1910H – 18.5” Visible area 470mm – Black color – Brightness 250 cd/m – contrast 1000:1

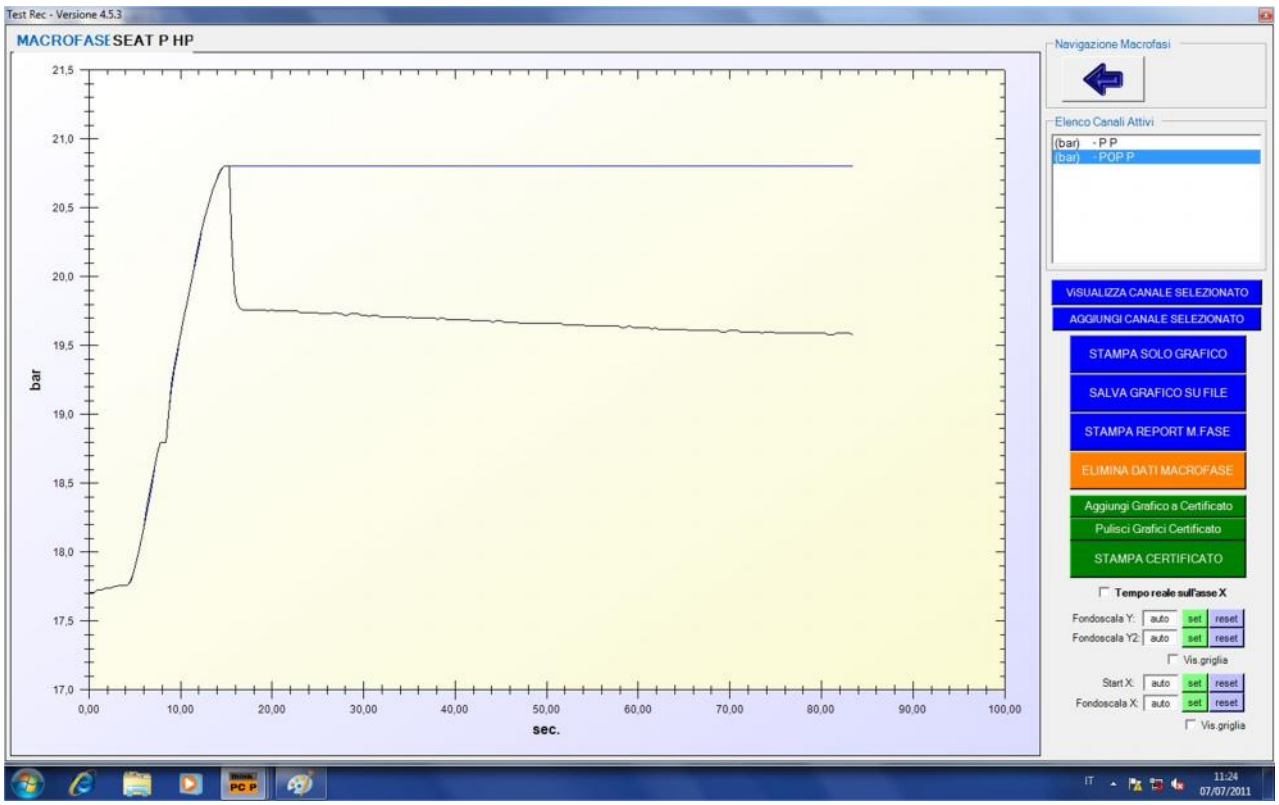
Printer :

color A4 24 ppm, 600×600 dpi

Screen SHOT:

Safety valve & SHUT-OFF VALVES test software mod. TestREC7.3.


SEAT P PRESSURE - POP PRESSURE
MEMORY
STOP
19,59
20,76
SEAT P HP
STANDBY
MACROFASE CORRENTE
SHELL TEST
SEAT P HP


Test Rec - Versione 4.5.3
MACROFASE SEAT P HP
bar
sec.
Navigazione Macrofasi
Elenco Canali Attivi
(bar) - P P
(bar) - POP P
VISUALIZZA CANALE SELEZIONATO
AGGIUNGI CANALE SELEZIONATO
STAMPA SOLO GRAFICO
SALVA GRAFICO SU FILE
STAMPA REPORT M.FASE
ELIMINA DATI MACROFASE
Aggiungi Grafico a Certificato
Pulisci Grafici Certificato
STAMPA CERTIFICATO
Tempo reale sull'asse X
Fondoscala Y:
Fondoscala Y2:
Vis.griglia
Start X:
Fondoscala X:
Vis.griglia

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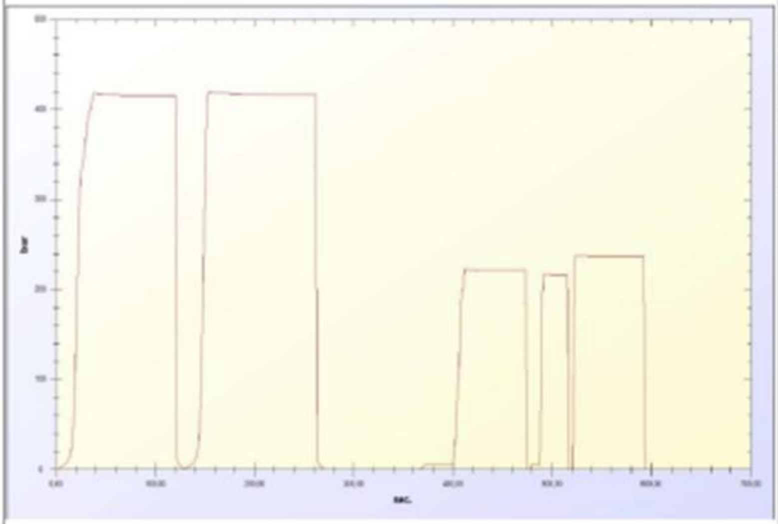
Smart Valves

SW di Certificazione
TestREC
TESTREC CUSTOMER
Quality Control
Customer : Cliente di prova

Test : hydro
Serial Number : TV012

TEST CORPO		
Tempo Stab	s	120
PRESSIONE	bar	415.8
Tempo Test	s	84.7
Tempo Stab	s	120
PRESSIONE	bar	416.2
Tempo Test	s	51.2

TEST SEGGIO "P" AP		
Tempo Stab	s	120
PRESSIONE	bar	221.2
Tempo Test	s	35.4
Tempo Stab	s	120
PRESSIONE	bar	216
Tempo Test	s	8.6
Tempo Stab	s	120
PRESSIONE	bar	236.8
Tempo Test	s	35.8

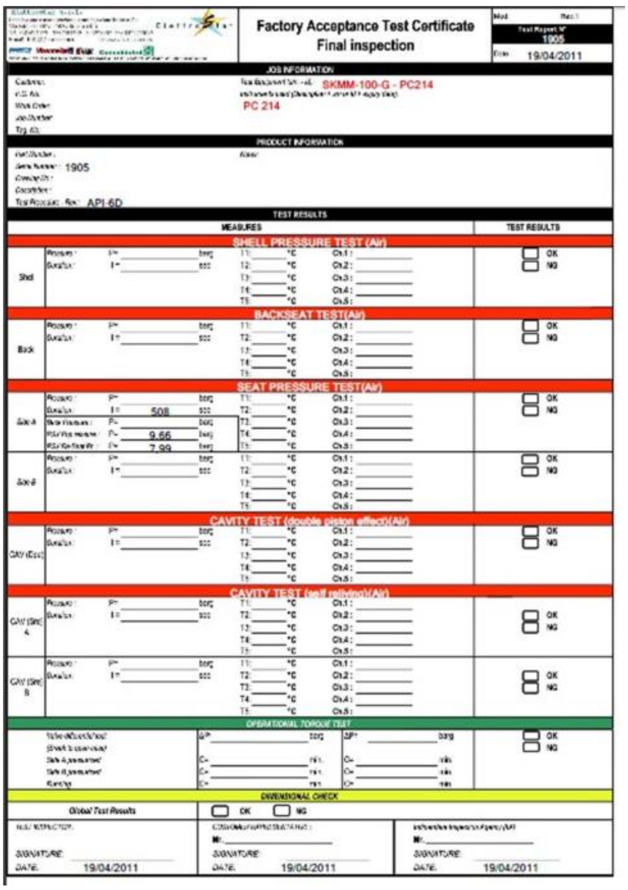


Job Nr :
ODL : PO 1
Drawing : DN 1

Description / Code : vs 2" 1/16 5000 psi
Ref. Standard : TEST REF STANDARD
Specification : Specifiche particolari

Operator
UTENTE UTILIZZATORE

Print Date : 20/12/2012


Factory Acceptance Test Certificate
Final inspection

Test Report N° 1905
Date 19/04/2011

JOB INFORMATION

Test Equipment: SKMM-100-G - PC214
PC 214

PRODUCT INFORMATION

Serial Number: 1905
Test Procedure: API-6D

TEST RESULTS

MEASURES	TEST RESULTS
SHELL PRESSURE TEST (Air)	OK / NO
BACKSEAT TEST(Air)	OK / NO
SEAT PRESSURE TEST(Air) — t= 508; P= 9.66; P= 7.99	OK / NO
SEAT PRESSURE TEST(Air)	OK / NO
CAVITY TEST (double piston effect)(Air)	OK / NO
CAVITY TEST (self relieving)(Air)	OK / NO
CAVITY TEST (self relieving)(Air)	OK / NO
OPERATIONAL TORQUE TEST	OK / NO
DIMENSIONAL CHECK	

Global Test Results: OK / NO

DATE: 19/04/2011
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International West Technology Transfer Co.

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