



**TEST ACCORDING TO**

MESC SPE 77/312 ed.2004 - STAR FE101-PROTOTYPE - ISO 14001 -  
ASME SEZ. V Article 10, Appendix IV Last Edition - ASME B16.34 & Addenda Last Edition

**EQUIPMENTS**

Mass Spectrometer manufactured by : LEYBOLD AG model : PHOENIX L300  
Serial n° : 90001041842  
Range:  $1 \times 10^{-8}$  (sniffing)  
 $5 \times 10^{-12}$  (vacuum)

Calibrated Leak manufactured by : ESA s.r.l. model : PTL60 range  $10^{-6}$   
Serial n° : 020805-059

Mass Spectrometer Calibrated Before Testing

VALVES DESCRIPTION	SIZE	CLASS	QUALIFIED VALVES		TEST REPORT AT PAGE
				CLASS	
MASTERSTAR SUPERSTAR	1/2" x 1/2" 3/4" x 1/2"	300	3/8"x3/8" - 1/4"x1/4" - 1/2"x3/8" - 3/4"x3/4" - 1"x3/4" - 1"x1" - 1.1/4"x1"	150 - 300	2
	1.1/2"x1.1/2" 2"x1.1/2"	300	1.1/4"x1.1/4" - 1.1/2"x1.1/4" - 2"x2" - 2.1/2"x2" - 2.1/2"x2.1/2" - 3"x2.1/2"	150-300	2
	1/2" x 1/2" 3/4" x 1/2"	800	3/8"x3/8" - 1/4"x1/4" - 1/2"x3/8" - 3/4"x3/4" - 1"x3/4" - 1"x1" - 1.1/4"x1"	800	3
	1.1/2"x1.1/2" 2"x1.1/2"	800	1.1/4"x1.1/4" - 1.1/2"x1.1/4" - 2"x2" - 2.1/2"x2" - 2.1/2"x2.1/2" - 3"x2.1/2"	800	3
	1/2" x 1/2" 3/4" x 1/2"	900	3/8"x3/8" - 1/4"x1/4" - 1/2"x3/8" - 3/4"x3/4" - 1"x3/4" - 1"x1" - 1.1/4"x1"	600 - 900	4
	1.1/2"x1.1/2" 2"x1.1/2"	900	1.1/4"x1.1/4" - 1.1/2"x1.1/4" - 2"x2" - 2.1/2"x2" - 2.1/2"x2.1/2" - 3"x2.1/2"	600 - 900	4
SUPERSTAR	3"x3" 4"x3"	300	2.1/2"x2.1/2" - 3"x2.1/2" - 4"x4" - 6"x4" - 6"x6" - 8"x6"	150 - 300	5
SPLIT STAR	3/4"x3/4"	300	1/2"x1/2" - 1"x1" - 1.1/4"x1.1/4"	150 - 300	6
	2"x2"	300	1.1/2"x1.1/2" - 2"x2" - 3"x3" - 4"x4"	150 - 300	6
	4"x4" 6"x4"	300	3"x3" - 4"x3" - 6"x6" - 8"x6" - 8"x8" - 10"x8"	150 - 300	6
MEGASTAR	1/2"x1/2"	2500	1/4"x1/4" - 3/8"x3/8" - 3/4"x3/4" - 1"x1"	1500 - 2500	7
	1.1/2"x1.1/2"	1500	1.1/4"x1.1/4" - 1.1/2"x1.1/2" - 2"x2" - 3"x3"	1500	8
METALSTAR	1/2" x 1/2" 3/4" x 1/2"	300	3/8"x3/8" - 1/4"x1/4" - 1/2"x3/8" - 3/4"x3/4" - 1"x3/4" - 1"x1" - 1.1/4"x1"	150 - 300	9
	1.1/2"x1.1/2" 2"x1.1/2"	300	1.1/4"x1.1/4" - 1.1/2"x1.1/4" - 2"x2" - 2.1/2"x2" - 2.1/2"x2.1/2" - 3"x2.1/2"	150-300	9
	1/2" x 1/2" 3/4" x 1/2"	600	3/8"x3/8" - 1/4"x1/4" - 1/2"x3/8" - 3/4"x3/4" - 1"x3/4" - 1"x1" - 1.1/4"x1"	600	10
	1.1/2"x1.1/2" 2"x1.1/2"	600	1.1/4"x1.1/4" - 1.1/2"x1.1/4" - 2"x2" - 2.1/2"x2" - 2.1/2"x2.1/2" - 3"x2.1/2"	600	10
	1/2" x 1/2" 3/4" x 1/2"	800	3/8"x3/8" - 1/4"x1/4" - 1/2"x3/8" - 3/4"x3/4" - 1"x3/4" - 1"x1" - 1.1/4"x1"	800	11
	1.1/2"x1.1/2" 2"x1.1/2"	800	1.1/4"x1.1/4" - 1.1/2"x1.1/4" - 2"x2" - 2.1/2"x2" - 2.1/2"x2.1/2" - 3"x2.1/2"	800	11

**Notes:**

OPERATOR QUALIFIED IN ACCORDING TO  
UNI EN473 - LEVEL II



Gritti

INSPECTOR

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WITNESSED 15-01-06

Date: 25-01-2006

**VALVE DESCRIPTION AND TESTS REPORTS**

<b>TYPE:</b>		<b>MASTERSTAR -SUPERSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>300</b>						
<b>TEMPERATURE CLASS:</b>		<b>T6</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 34 cycles at ambient temperature	Max leakage After 34 cycles at -46°C	Max leakage After 34 cycles at +80°C
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	20	1x10 <sup>-7</sup>	1x10 <sup>-7</sup>	6x10 <sup>-7</sup>	4x10 <sup>-7</sup>
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		2x10 <sup>-7</sup>	1x10 <sup>-7</sup>	5x10 <sup>-7</sup>	3x10 <sup>-7</sup>
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	20	5x10 <sup>-7</sup>	2x10 <sup>-7</sup>	8x10 <sup>-7</sup>	6x10 <sup>-7</sup>
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		4x10 <sup>-7</sup>	4x10 <sup>-7</sup>	6x10 <sup>-7</sup>	6x10 <sup>-7</sup>

<b>TYPE:</b>		<b>MASTERSTAR -SUPERSTAR</b>					
<b>PRESSURE CLASS:</b>		<b>300</b>					
<b>TEMPERATURE CLASS:</b>		<b>T7</b>					
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>					
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 50 cycles at ambient temperature	Max leakage After 50 cycles at +150°C
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	20	2x10 <sup>-7</sup>	1x10 <sup>-7</sup>	1x10 <sup>-7</sup>
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		2x10 <sup>-7</sup>	2x10 <sup>-7</sup>	1x10 <sup>-7</sup>
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	20	2x10 <sup>-7</sup>	1x10 <sup>-7</sup>	2x10 <sup>-7</sup>
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		4x10 <sup>-7</sup>	2x10 <sup>-7</sup>	2x10 <sup>-7</sup>

Notes:

OPERATOR QUALIFIED IN ACCORDING TO  
 UNI EN 10400 LEVEL II



INSPECTOR

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23.01.06

Date: 23-01-2006

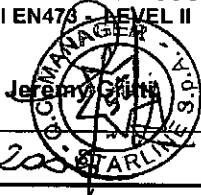
**VALVE DESCRIPTION AND TESTS REPORTS**

<b>TYPE:</b>		<b>MASTERSTAR -SUPERSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>800</b>						
<b>TEMPERATURE CLASS:</b>		<b>T6</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 34 cycles at ambient temperature	Max leakage After 34 cycles at -46°C	Max leakage After 34 cycles at +80°C
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	28	1x10 <sup>-7</sup>	2x10 <sup>-7</sup>	1x10 <sup>-6</sup>	3x10 <sup>-7</sup>
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		1x10 <sup>-7</sup>	6x10 <sup>-7</sup>	9x10 <sup>-7</sup>	8x10 <sup>-7</sup>
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	28	6x10 <sup>-7</sup>	8x10 <sup>-7</sup>	3x10 <sup>-7</sup>	2x10 <sup>-7</sup>
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		2x10 <sup>-7</sup>	2x10 <sup>-7</sup>	5x10 <sup>-7</sup>	6x10 <sup>-7</sup>

<b>TYPE:</b>		<b>MASTERSTAR -SUPERSTAR</b>					
<b>PRESSURE CLASS:</b>		<b>800</b>					
<b>TEMPERATURE CLASS:</b>		<b>T7</b>					
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>					
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 50 cycles at ambient temperature	Max leakage After 50 cycles at +150°C
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	28	3x10 <sup>-7</sup>	6x10 <sup>-7</sup>	2x10 <sup>-7</sup>
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		2x10 <sup>-7</sup>	6x10 <sup>-7</sup>	3x10 <sup>-7</sup>
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	28	4x10 <sup>-7</sup>	2x10 <sup>-7</sup>	2x10 <sup>-7</sup>
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		4x10 <sup>-7</sup>	7x10 <sup>-7</sup>	5x10 <sup>-7</sup>

Notes:

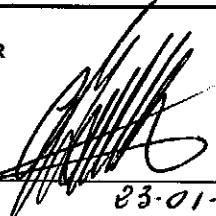
OPERATOR QUALIFIED IN ACCORDING TO  
 UNI EN476 - LEVEL II



Date: 23-01-2006

INSPECTOR



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 23-01-2006

**VALVE DESCRIPTION AND TESTS REPORTS**

<b>TYPE:</b>		<b>MASTERSTAR -SUPERSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>900</b>						
<b>TEMPERATURE CLASS:</b>		<b>T6</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 34 cycles at ambient temperature	Max leakage After 34 cycles at -46°C	Max leakage After 34 cycles at +80°C
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	50	6x10 <sup>-7</sup>	7x10 <sup>-7</sup>	2x10 <sup>-6</sup>	6x10 <sup>-7</sup>
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		8x10 <sup>-7</sup>	9x10 <sup>-7</sup>	1x10 <sup>-6</sup>	8x10 <sup>-7</sup>
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	50	1x10 <sup>-7</sup>	2x10 <sup>-7</sup>	6x10 <sup>-7</sup>	4x10 <sup>-7</sup>
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		2x10 <sup>-7</sup>	2x10 <sup>-7</sup>	7x10 <sup>-7</sup>	4x10 <sup>-7</sup>

<b>TYPE:</b>		<b>MASTERSTAR -SUPERSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>900</b>						
<b>TEMPERATURE CLASS:</b>		<b>T7</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 50 cycles at ambient temperature	Max leakage After 50 cycles at +150°C	
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	50	1x10 <sup>-7</sup>	1x10 <sup>-7</sup>	2x10 <sup>-7</sup>	
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		3x10 <sup>-7</sup>	1x10 <sup>-7</sup>	4x10 <sup>-7</sup>	
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	50	6x10 <sup>-7</sup>	5x10 <sup>-7</sup>	5x10 <sup>-7</sup>	
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		1x10 <sup>-7</sup>	1x10 <sup>-7</sup>	2x10 <sup>-7</sup>	

Notes:


OPERATOR QUALIFIED IN ACCORDING TO  
 UNI EN473 - LEVEL III

Jeremy Grillo



INSPECTOR

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 23-01-06

Date: 23-01-2006

**VALVE DESCRIPTION AND TESTS REPORTS**

<b>TYPE:</b>		<b>SUPERSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>300</b>						
<b>TEMPERATURE CLASS:</b>		<b>T6</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 34 cycles at ambient temperature	Max leakage After 34 cycles at -46°C	Max leakage After 34 cycles at +80°C
3"x3" 4"x4"	stem	40	7.0x10 <sup>-5</sup>	30	3x10 <sup>-6</sup>	9x10 <sup>-7</sup>	4x10 <sup>-6</sup>	3x10 <sup>-6</sup>
	Body/ Ends	145	8.0x10 <sup>-5</sup>		6x10 <sup>-6</sup>	6x10 <sup>-6</sup>	9x10 <sup>-6</sup>	4x10 <sup>-6</sup>

<b>TYPE:</b>		<b>SUPERSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>300</b>						
<b>TEMPERATURE CLASS:</b>		<b>T7</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 50 cycles at ambient temperature	Max leakage After 50 cycles at +150°C	
3"x3" 4"x4"	stem	40	7.0x10 <sup>-5</sup>	30	5x10 <sup>-6</sup>	8x10 <sup>-7</sup>	4x10 <sup>-7</sup>	
	Body/ Ends	145	8.0x10 <sup>-5</sup>		8x10 <sup>-6</sup>	6x10 <sup>-6</sup>	6x10 <sup>-6</sup>	

Notes:

OPERATOR QUALIFIED IN ACCORDING TO  
 UNI EN473 - LEVEL 2

Jeremy Green



INSPECTOR

WITNESSED

26-01-06

Date: 24-01-2006

**VALVE DESCRIPTION AND TESTS REPORTS**

<b>TYPE:</b>		<b>SPLITSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>300</b>						
<b>TEMPERATURE CLASS:</b>		<b>T6</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 34 cycles at ambient temperature	Max leakage After 34 cycles at -46°C	Max leakage After 34 cycles at +80°C
3/4"x3/4"	stem	12	2.12x10 <sup>-5</sup>	20	3x10 <sup>-7</sup>	4x10 <sup>-7</sup>	6x10 <sup>-7</sup>	4x10 <sup>-7</sup>
	Body/ Ends	48.7	2.69x10 <sup>-5</sup>		6x10 <sup>-7</sup>	6x10 <sup>-7</sup>	6x10 <sup>-6</sup>	6x10 <sup>-7</sup>
2"x2"	stem	28	4.9x10 <sup>-5</sup>	20	3x10 <sup>-7</sup>	2x10 <sup>-7</sup>	6x10 <sup>-7</sup>	2x10 <sup>-7</sup>
	Body/ Ends	98	5.4x10 <sup>-5</sup>		3x10 <sup>-7</sup>	8x10 <sup>-7</sup>	1x10 <sup>-6</sup>	4x10 <sup>-7</sup>
4"x4" 6"x4"	stem	24	4.3x10 <sup>-5</sup>	20	1x10 <sup>-6</sup>	6x10 <sup>-6</sup>	9x10 <sup>-6</sup>	3x10 <sup>-6</sup>
	Body/ Ends	180	9.9x10 <sup>-5</sup>		1x10 <sup>-6</sup>	4x10 <sup>-6</sup>	8x10 <sup>-6</sup>	4x10 <sup>-6</sup>

<b>TYPE:</b>		<b>SPLITSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>300</b>						
<b>TEMPERATURE CLASS:</b>		<b>T7</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 50 cycles at ambient temperature	Max leakage After 50 cycles at +150°C	
3/4"x3/4"	stem	12	2.12x10 <sup>-5</sup>	20	1x10 <sup>-7</sup>	3x10 <sup>-7</sup>	2x10 <sup>-7</sup>	
	Body/ Ends	48.7	2.69x10 <sup>-5</sup>		4x10 <sup>-7</sup>	2x10 <sup>-7</sup>	5x10 <sup>-7</sup>	
2"x2"	stem	28	4.9x10 <sup>-5</sup>	20	1x10 <sup>-7</sup>	6x10 <sup>-7</sup>	2x10 <sup>-7</sup>	
	Body/ Ends	98	5.4x10 <sup>-5</sup>		2x10 <sup>-7</sup>	7x10 <sup>-7</sup>	3x10 <sup>-7</sup>	
4"x4" 6"x4"	stem	24	4.3x10 <sup>-5</sup>	20	3x10 <sup>-6</sup>	4x10 <sup>-6</sup>	2x10 <sup>-6</sup>	
	Body/ Ends	180	9.9x10 <sup>-5</sup>		5x10 <sup>-6</sup>	6x10 <sup>-6</sup>	4x10 <sup>-6</sup>	

Notes:

OPERATOR QUALIFIED IN ACCORDING TO  
 UNI EN473 - LEVEL II

Jeremy Gritti



INSPECTOR

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 WITNESS (S)  
 24/01/06

Date: 24-01-2006

**VALVE DESCRIPTION AND TESTS REPORTS**

<b>TYPE:</b>		<b>MEGASTAR</b>						
<b>PRESSURE CLASS:</b>		<b>2500</b>						
<b>TEMPERATURE CLASS:</b>		<b>T6</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 34 cycles at ambient temperature	Max leakage After 34 cycles at -46°C	Max leakage After 34 cycles at +80°C
1/2"X1/2"	stem	12	2.1x10 <sup>-5</sup>	84	3x10 <sup>-6</sup>	9x10 <sup>-7</sup>	4x10 <sup>-6</sup>	3x10 <sup>-6</sup>
	Body/ Ends	41.9	2.3x10 <sup>-5</sup>		6x10 <sup>-6</sup>	6x10 <sup>-6</sup>	9x10 <sup>-6</sup>	4x10 <sup>-6</sup>

<b>TYPE:</b>		<b>MEGASTAR</b>						
<b>PRESSURE CLASS:</b>		<b>2500</b>						
<b>TEMPERATURE CLASS:</b>		<b>T7</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 50 cycles at ambient temperature	Max leakage After 50 cycles at +150°C	
1/2"X1/2"	stem	12	2.1x10 <sup>-5</sup>	84	1x10 <sup>-6</sup>	8x10 <sup>-7</sup>	6x10 <sup>-7</sup>	
	Body/ Ends	41.9	2.3x10 <sup>-5</sup>		5x10 <sup>-6</sup>	5x10 <sup>-6</sup>	4x10 <sup>-6</sup>	

Notes:

OPERATOR QUALIFIED IN ACCORDING TO  
 UNI EN473 - LEVEL II

Jeremy Gritti



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24/01/06

Date: 24-01-2006

**VALVE DESCRIPTION AND TESTS REPORTS**

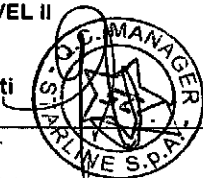
<b>TYPE:</b>		<b>MEGASTAR</b>						
<b>PRESSURE CLASS:</b>		<b>1500</b>						
<b>TEMPERATURE CLASS:</b>		<b>T6</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 34 cycles at ambient temperature	Max leakage After 34 cycles at -46°C	Max leakage After 34 cycles at +80°C
1.1/2"x1.1/2"	stem	22	3.8x10 <sup>-5</sup>	50	2x10 <sup>-7</sup>	4x10 <sup>-7</sup>	8x10 <sup>-7</sup>	2x10 <sup>-7</sup>
	Body/ Ends	82.8	2.6x10 <sup>-5</sup>		3x10 <sup>-7</sup>	5x10 <sup>-7</sup>	9x10 <sup>-7</sup>	3x10 <sup>-7</sup>

<b>TYPE:</b>		<b>MEGASTAR</b>						
<b>PRESSURE CLASS:</b>		<b>1500</b>						
<b>TEMPERATURE CLASS:</b>		<b>T7</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 50 cycles at ambient temperature	Max leakage After 50 cycles at +150°C	
1.1/2"x1.1/2"	stem	22	3.8x10 <sup>-5</sup>	50	3x10 <sup>-7</sup>	2x10 <sup>-7</sup>	2x10 <sup>-7</sup>	
	Body/ Ends	82.8	2.6x10 <sup>-5</sup>		3x10 <sup>-7</sup>	3x10 <sup>-7</sup>	3x10 <sup>-7</sup>	

**Notes:**

OPERATOR QUALIFIED IN ACCORDING TO  
 UNI EN473 - LEVEL II

Jeremy Gritti



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Date: 25-01-2006



**VALVE DESCRIPTION AND TESTS REPORTS**

<b>TYPE:</b>		<b>METALSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>300</b>						
<b>TEMPERATURE CLASS:</b>		<b>T6</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 34 cycles at ambient temperature	Max leakage After 34 cycles at -46°C	Max leakage After 34 cycles at +80°C
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	20	1x10 <sup>-7</sup>	3x10 <sup>-7</sup>	8x10 <sup>-7</sup>	2x10 <sup>-7</sup>
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		1x10 <sup>-7</sup>	3x10 <sup>-7</sup>	6x10 <sup>-7</sup>	3x10 <sup>-7</sup>
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	20	3x10 <sup>-7</sup>	5x10 <sup>-7</sup>	9x10 <sup>-7</sup>	4x10 <sup>-7</sup>
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		4x10 <sup>-7</sup>	3x10 <sup>-7</sup>	5x10 <sup>-7</sup>	1x10 <sup>-7</sup>

<b>TYPE:</b>		<b>METALSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>300</b>						
<b>TEMPERATURE CLASS:</b>		<b>T7</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 50 cycles at ambient temperature	Max leakage After 50 cycles at +150°C	
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	20	1x10 <sup>-7</sup>	1x10 <sup>-7</sup>	1x10 <sup>-7</sup>	
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		5x10 <sup>-7</sup>	4x10 <sup>-7</sup>	1x10 <sup>-7</sup>	
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	20	2x10 <sup>-7</sup>	2x10 <sup>-7</sup>	2x10 <sup>-7</sup>	
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		2x10 <sup>-7</sup>	2x10 <sup>-7</sup>	2x10 <sup>-7</sup>	

**Notes:**

OPERATOR QUALIFIED IN ACCORDING TO  
 UNI EN473 - LEVEL II

Jeremy Gritti



INSPECTOR



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 25/01/06  
 WITNESSED

Date: 25-01-2006

**VALVE DESCRIPTION AND TESTS REPORTS**

<b>TYPE:</b>		<b>METALSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>600</b>						
<b>TEMPERATURE CLASS:</b>		<b>T6</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 34 cycles at ambient temperature	Max leakage After 34 cycles at -46°C	Max leakage After 34 cycles at +80°C
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	25	1x10 <sup>-7</sup>	2x10 <sup>-7</sup>	8x10 <sup>-7</sup>	1x10 <sup>-7</sup>
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		4x10 <sup>-7</sup>	4x10 <sup>-7</sup>	6x10 <sup>-7</sup>	4x10 <sup>-7</sup>
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	25	2x10 <sup>-7</sup>	4x10 <sup>-7</sup>	9x10 <sup>-7</sup>	3x10 <sup>-7</sup>
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		2x10 <sup>-7</sup>	7x10 <sup>-7</sup>	3x10 <sup>-7</sup>	2x10 <sup>-7</sup>

<b>TYPE:</b>		<b>METALSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>600</b>						
<b>TEMPERATURE CLASS:</b>		<b>T7</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 50 cycles at ambient temperature	Max leakage After 50 cycles at +150°C	
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	25	4x10 <sup>-7</sup>	1x10 <sup>-7</sup>	3x10 <sup>-7</sup>	
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		4x10 <sup>-7</sup>	4x10 <sup>-7</sup>	3x10 <sup>-7</sup>	
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	25	5x10 <sup>-7</sup>	2x10 <sup>-7</sup>	1x10 <sup>-7</sup>	
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		1x10 <sup>-7</sup>	1x10 <sup>-7</sup>	2x10 <sup>-7</sup>	

Notes:

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 UNI EN473 - LEVEL II

Jeremy Gritti



INSPECTOR



ATTENZIONE

25-01-06

Date: 25-01-2006

**VALVE DESCRIPTION AND TESTS REPORTS**

<b>TYPE:</b>		<b>METALSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>800</b>						
<b>TEMPERATURE CLASS:</b>		<b>T6</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 34 cycles at ambient temperature	Max leakage After 34 cycles at -46°C	Max leakage After 34 cycles at +80°C
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	28	1x10 <sup>-7</sup>	2x10 <sup>-7</sup>	8x10 <sup>-7</sup>	5x10 <sup>-7</sup>
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		1x10 <sup>-7</sup>	2x10 <sup>-7</sup>	3x10 <sup>-7</sup>	3x10 <sup>-7</sup>
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	28	2x10 <sup>-7</sup>	1x10 <sup>-7</sup>	8x10 <sup>-7</sup>	1x10 <sup>-7</sup>
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		2x10 <sup>-7</sup>	4x10 <sup>-6</sup>	6x10 <sup>-7</sup>	5x10 <sup>-7</sup>

<b>TYPE:</b>		<b>METALSTAR</b>						
<b>PRESSURE CLASS:</b>		<b>800</b>						
<b>TEMPERATURE CLASS:</b>		<b>T7</b>						
<b>ENDURANCE CLASS:</b>		<b>CO-QT-SS-ML</b>						
Valve Size	Test	Tightness size	Max allowable leakage	Test Pressure (Bar)	Max leakage at ambient temperature	Max leakage After 50 cycles at ambient temperature	Max leakage After 50 cycles at +150°C	
1/2" x 1/2" 3/4" x 1/2"	stem	10	1.76x10 <sup>-5</sup>	28	1x10 <sup>-7</sup>	2x10 <sup>-7</sup>	3x10 <sup>-6</sup>	
	Body/ Ends	39.1	2.16x10 <sup>-5</sup>		2x10 <sup>-7</sup>	1x10 <sup>-7</sup>	8x10 <sup>-7</sup>	
1.1/2" x 1.1/2" 2" x 1.1/2"	stem	15	2.6x10 <sup>-5</sup>	28	3x10 <sup>-7</sup>	2x10 <sup>-6</sup>	1x10 <sup>-6</sup>	
	Body/ Ends	77.4	4.27x10 <sup>-5</sup>		8x10 <sup>-7</sup>	5x10 <sup>-7</sup>	5x10 <sup>-7</sup>	

Notes:

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 UNI EN473 - LEVEL II

Jeremy Gritti



INSPECTOR

*[Signature]*  
 25/01/06 (WITNESSEI)



Date: 25-01-2006