

CUSTOMER:



SUPPLIER:



JOB: 2F11 – SABIZ

Purchase Order: 121263 2F11A

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Scheda tecnica per la riga: 1

POS. (Item) = 1
QUANTITA' (Quantity) .. = 1
SIGLA (tag) = 2F11-80-041

VALVOLA TIPO (Valve type) AT/S2/D/6-AF1
DIAMETRO NOMINALE (Nominal Diameter) ... = 1/2"
ATTACCHI (Connections) = ANSI 150RF
NUMERO SEDI (Seat quantity) = 2
TEMPERATURA AUMENTA (Temperature increases) = VALVOLA CHIUDE (Valve closes)

FLUIDO TENDE AD APRIRE (Flow tries to open)
MATERIALE BULBO (Bulb material) ... = AISI 304
DIAMETRO BULBO (Bulb diameter) = 25.4 mm
LUNGHEZZA BULBO (Bulb length) = 390 mm
LUNGHEZZA CAPILLARE (Capillary length) ... = 6,1 mt

CON POZZETTO IN AISI 316 (With well in AISI 316)
ATTACCO AL PROCESSO (Connection to process) = 1.1/2'' NPT-M

DIAMETRO POZZETTO (Well diameter) = 29 mm
LUNGHEZZA IMMERSA (Immersed length) = 318 mm

MATERIALE CORPO (Body material) ACC. AL C. (Carbon St.)
MATERIALE OTTURATORE (Plug material) AISI 316
MATERIALE SEDE (Seat material) AISI 316
TENUTA ASTA OTTURATORE (Paking) SOFFIETTO (Bellows)

CONDIZIONI DI ESERCIZIO (Operating condition) :
FLUIDO (Fluid) = VAPORE SATURO STATO (State) = VAPORE (Steam)
TEMPERATURA MASSIMA (Max temperature) = SATURO

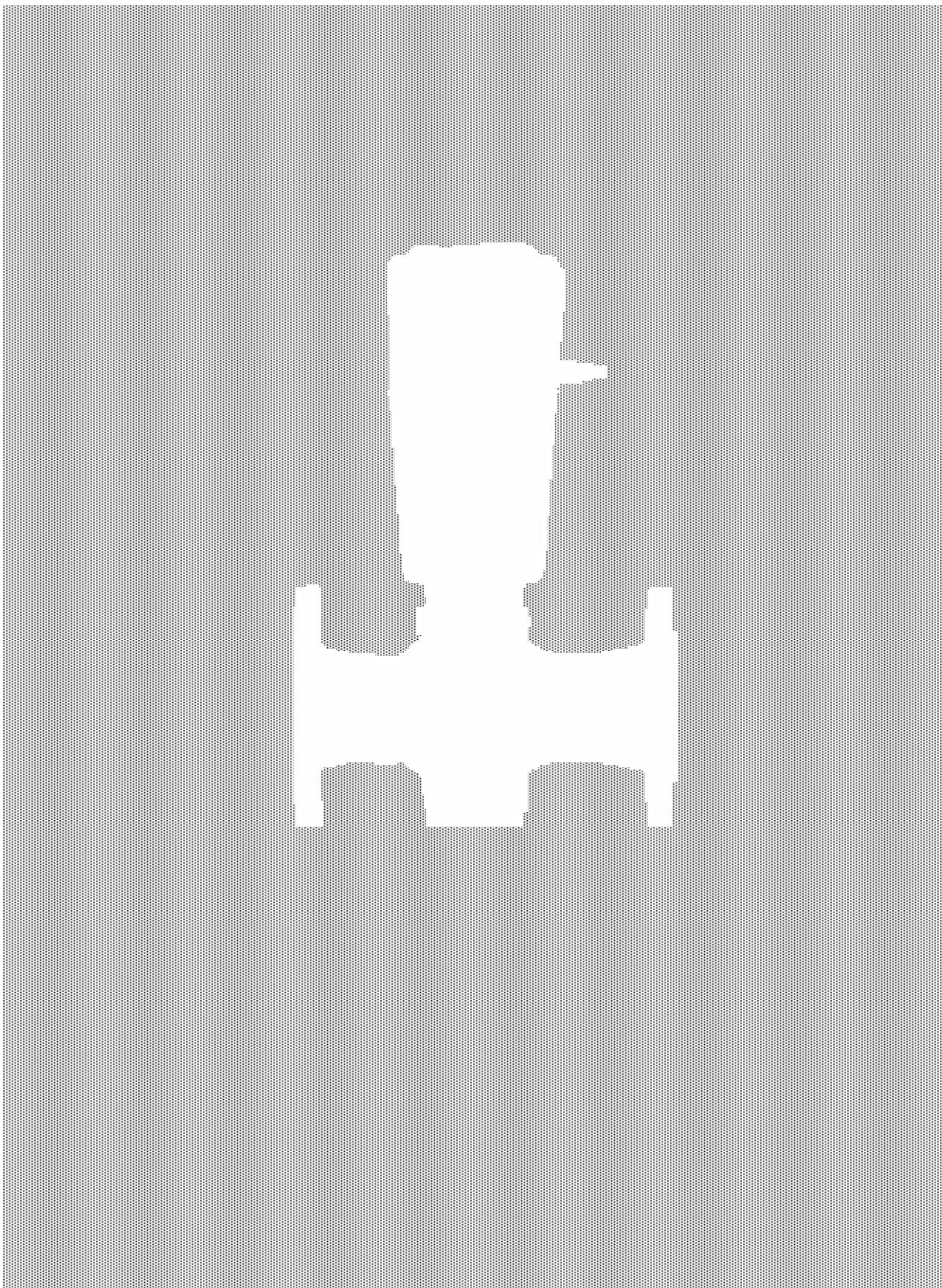
TEMPERATURA REGOLATA (Set temperature) = 80°C
CAMPO REGOLAZIONE (Range) = +35 +90°C
PRESSIONE MINIMA DI MONTE (Minimum inlet pressure) = 7.013 bar ass.
PRESSIONE MASSIMA DI MONTE (Maximum inlet pressure) = 6.513 bar ass.
PORTATA (Flow rate) :
MINIMA (Minimum) = 50 kg/h
NORMALE (Normal) = /
MASSIMA (Maximum) = 100 kg/h

DP CALCOLO (Calculation diff. press.) = 0,5 bar
CV CALCOLATO (Calculated CV) = 3.34
CV SCELTO (Selected CV) = 7

NOTE (Notes) :



I N S T R U C T I O N S
For installing, starting and servicing the AT series
of temperature regulators



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I N S T R U C T I O N S

For installing, starting and servicing the **A T** series of temperature regulators

1. GENERAL INFORMATION:

1.1 - RIGHT TO MAKE MODIFICATIONS AND "COPYRIGHT"

The regulations, standards, etc. mentioned in these operating instructions are based on the knowledge that was available when they were drawn up and are not subject to modification. Users are responsible for applying the latest versions of these.

The supplier reserves the right to make modifications and technical improvements to data and information whenever it sees fit. Under no circumstances may users require modifications or improvements to be made to valves that have already been delivered.

2. GUARANTEE

The scope and duration of the guarantee are indicated in the manufacturer's "General Conditions of Sale".

The applicable conditions are those that were in force at the moment of delivery.

Amongst other things, the guarantee does not cover damage to valves deriving from the following:

- ° Ignorance or non-observance of these operating instructions!
- ° Insufficiently trained fitters, operators or maintenance men.
- ° Normal wear and tear
- ° Incorrect or negligent use of the valves.

The manufacturer declines all liability for the following which are not covered by the guarantee:

- ° Non-observance of accident prevention regulations and/or safety legislation.
- ° Incorrect assembly, start-up or use
- ° Improper or incorrect use, inappropriate use or different working conditions from those agreed
- ° Users are solely liable for physical injury and/or damage to property if the above is not observed.

3. VALIDITY OF INSTRUCTIONS

These instructions refer to the "A T" series of self-operated temperature regulators :

AT/S1/D – Single seat, direct-acting

AT/S2/D – Double seat, direct-acting

AT/S1/R – Single seat, reverse-acting

AT/S2/R – Double seat, reverse-acting

AT/3V/M – Three-way mixing

AT/3V/DV – Three-way diverter



INSTRUCTIONS

For installing, starting and servicing the AT series of temperature regulators

4. PRODUCT SAFETY INDICATIONS AND BOX SYSTEM

If and where appropriate, safety warnings have been placed inside boxes in the margins of the pages of this manual.

These rectangular boxes are positioned vertically (as shown in the following examples) and contain four sections containing messages communicating:

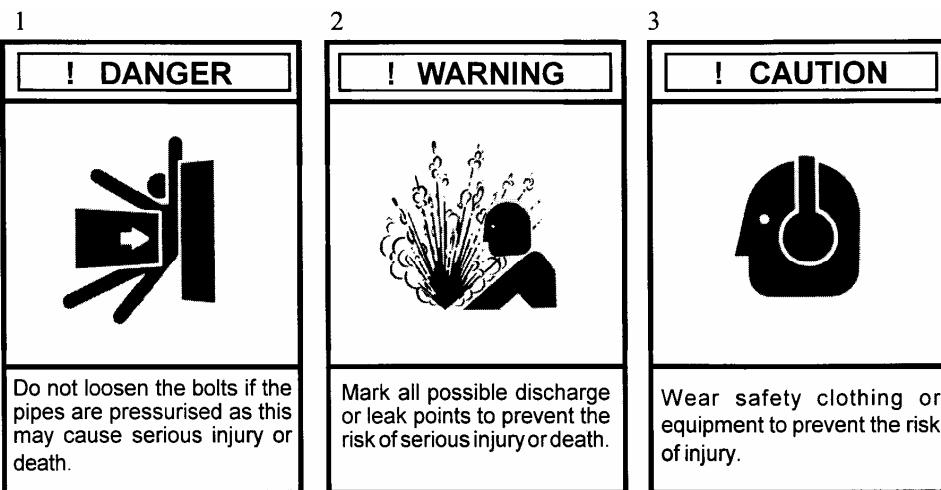
- The level of severity
- The nature of the risk
- The effects of the risk on people or products
- Instructions, if necessary, on how to avoid the risk

The top section contains a warning word (DANGER – WARNING – CAUTION - ATTENTION) which indicates the severity of the risk.

The central section contains a drawing indicating the nature of the risk and its possible effects on people and property. In some cases, the drawing may suggest what preventive measures can be taken, such as wearing safety clothing.

The bottom section may contain a message with instructions on how to avoid the risk. In the event of risks for people, the message may also contain a more precise definition of the risk and its effects on people.

- 1) DANGER – Immediate risk which will certainly cause serious injury or death.**
- 2) WARNING – Risk or hazardous behaviour which may cause serious injury or death.**
- 3) CAUTION – Risk or hazardous behaviour which may cause minor injury.**





I N S T R U C T I O N S

For installing, starting and servicing the AT series of temperature regulators

5. SAFETY WARNINGS

Thorough maintenance operations and overhauls are important for the safe and reliable operation of all valves.

The service procedures recommended by CARRARO and described in this manual are effective methods for carrying out maintenance operations. Please note that this service manual contains various warning and caution notices which should be read carefully in order to minimise the risk of injury to people or the possibility of using incorrect work methods which may damage the valves or make them unsafe. It is important to realise, however, that these warnings cannot be exhaustive.

CARRARO is unable to know, assess and inform customers or users of all the conceivable methods of performing maintenance operations and all the risks deriving from the use of such methods.

Consequently, CARRARO has not even attempted to start such a task. Therefore, whoever uses a service method or piece of equipment which is not recommended by CARRARO must make sure that neither his own or other people's safety, nor valve safety and performance are jeopardised by the chosen method.

In case of doubt about the method used, please contact CARRARO.

Testing, installing or dismantling the valves or accessories may cause you to come into contact with fluids at very high pressures or temperatures and/or corrosive or erosive, capable of generating potentially explosive atmospheres.

Therefore, take all safety precautions while testing, installing or dismantling the product; these include, wearing ear plugs, goggles and safety clothing, such as gloves, both in or near the work area.

Given the large number of conditions and circumstances that may arise while working on the products and the consequent risks deriving from the way this is done, CARRARO is unable to prevent all risks of injury to people and damage to property and can only help by asking you to take the utmost care and by providing the following safety suggestions.

Users of CARRARO products are responsible for training the staff that will use them.

It is most important for these people to acquire a thorough knowledge of the instructions referring to the product, especially those contained in this manual.

! CAUTION



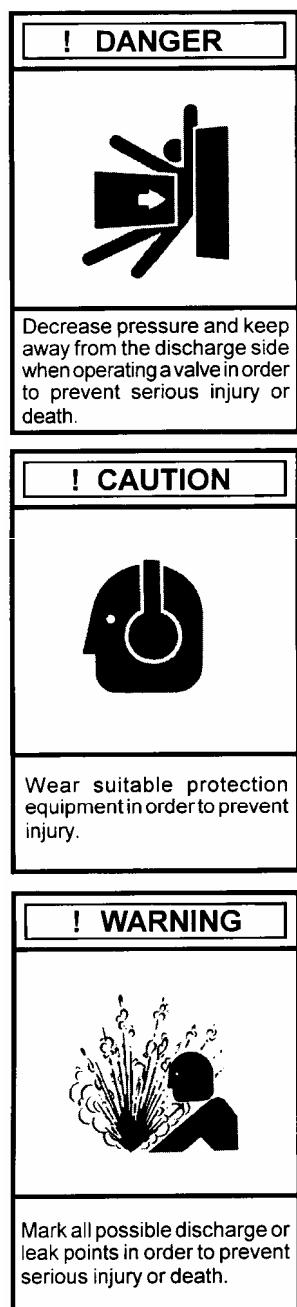
Wear safety clothing or equipment to prevent the risk of injury.



I N S T R U C T I O N S

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6. SAFETY PRECAUTIONS



Always observe the current plant safety regulations together with the following indications:

° Wear safety clothing. Hot water can scald you and overheated steam is invisible.

° When dismounting a valve, wear safety clothing to prevent being sprayed by any process fluid that may have accumulated inside. Remember that this fluid may generate a potentially explosive mixture. Make sure the valve is isolated from any pressure source in the system before starting to dismantle it.

° Inspect/service the valves at least once a year.

° The outer surfaces of the valves reach the same temperature as that of the fluid flowing inside them. For this reason, when installing a valve in a potentially explosive atmosphere, make sure that the flashover temperature of the mixture surrounding the valve is safely above that of the fluid flowing inside the valve and do not allow inflammable powders to deposit on the outer surface of the valve.

° The system must be equipotential at the connection between the valve and the piping in order to prevent the accumulation of electrostatic electricity on the outer surfaces of the system that can act as an efficient flashover trigger in a potentially explosive atmosphere.

° Please consult CARRARO before working on valve parts.



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7. TRANSPORT, STORAGE AND HANDLING

Transport

Depending on their size, valves can be transported loose, packed in cardboard boxes or in wooden crates.

The valve ends are fitted with covers to prevent dirt from entering. Packs can be placed on pallets if required. Follow all and any indications written on the packaging.



CAUTION

**Operators moving loads must take all necessary
precautions to prevent accidents.**

Storage

Keep valves in a dry and sheltered place. Only remove them from their crates or packaging immediately prior to installation.

Keep the end protectors and covers on until the last moment. Do not knock the valves, even when they are packed.

Whether packed or not, always keep valves upright, that is, never lying on their sides, in order to prevent distortion and damage to internal parts.

Handling

When unpacking a valve and removing the end protectors immediately prior to installation, take great care to make sure that foreign bodies do not enter the inlet and outlet holes while the valve is being connected.



CAUTION

**When handling a valve, make sure the work area is kept clear
in order to prevent injury to people and damage to property**



I N S T R U C T I O N S

For installing, starting and servicing the AT series of temperature regulators

8. CHARACTERISTICS AND MARKINGS

Plate "A" attached to the regulator body indicates:

- SERIAL NUMBER OF THE REGULATOR

When requesting spare parts, always quote this number.

- DIAMETER OF THE REGULATOR AND THE CHARACTERISTICS OF THE PLUG

The number indicates the entry and exit diameter of the regulator and normally corresponds to the diameter of the seat.

For $\frac{1}{2}$ " single-seat regulators, the following 5 seat diameters are available:

- A – diam. 1/4" seat for unprofiled plug
- B – diam. 3/8" seat for unprofiled plug
- C – diam. 1/4" seat for profiled plug
- D – diam. 3/8" seat for profiled plug
- E – diam. 1/2" seat for profiled plug

Plate "B" is attached to the frame (8) indicates:

- CALIBRATION OR ADJUSTMENT RANGE
- UPLINE AND DOWNLINE OPERATING PRESSURES
- DIRECT ACTION – The poppet stops the fluid from flowing when its temperature is higher than the calibrated value
- REVERSE ACTION – The poppet stops the fluid from flowing when its temperature is lower than the calibrated value

A GRADUATED PLATE is attached to the CALIBRATION INDEX side of the frame (8)

This scale shows the compression of the spring and therefore gives an approximate indication of the calibration.

For fine-tuning, read the required temperature on a thermometer and then turn the adjustment ring (10)

The MINIMUM TEMPERATURE OF THE FIELD OF REGULATION is indicated at the connection point of the capillary.

This number is characteristic of the SENSITIVE SYSTEM (Bellows-capillary-bulb)

All the regulators parts are interchangeable and therefore different SENSITIVE SYSTEMS can be mounted on every body (with frame), thus changing the calibration range of the regulator. (Also see: "REPLACING THE SENSITIVE SYSTEM AND SET SPRING")

The point connecting the capillary to the bulb is marked with a red dot;

This dot is very important when mounting the bulb and MUST ALWAYS FACE UPWARDS.



I N S T R U C T I O N S

For installing, starting and servicing the AT series of temperature regulators

9. INSTALLATION

See drawing Fig. 3 (installation examples)

9.1 INSTALLING THE REGULATOR AND FILTER (Fig. 3)

The regulator can be installed WITHOUT DISTINCTION above or below the bulb connector.

When installing the regulator, pay attention to the ARROW on the plate attached to the frame indicating the direction of FLOW.

It is always best to use the "S" filter to protect the seat and the plug of the regulator from possible damage by foreign bodies.

Cut the connector tubes to the right lengths and perfectly align them in order to prevent stress on the regulator body.

When CONTINUOUS OPERATION is required, install the three by-pass valves "X" "Y" "Z", as shown in fig. 1.

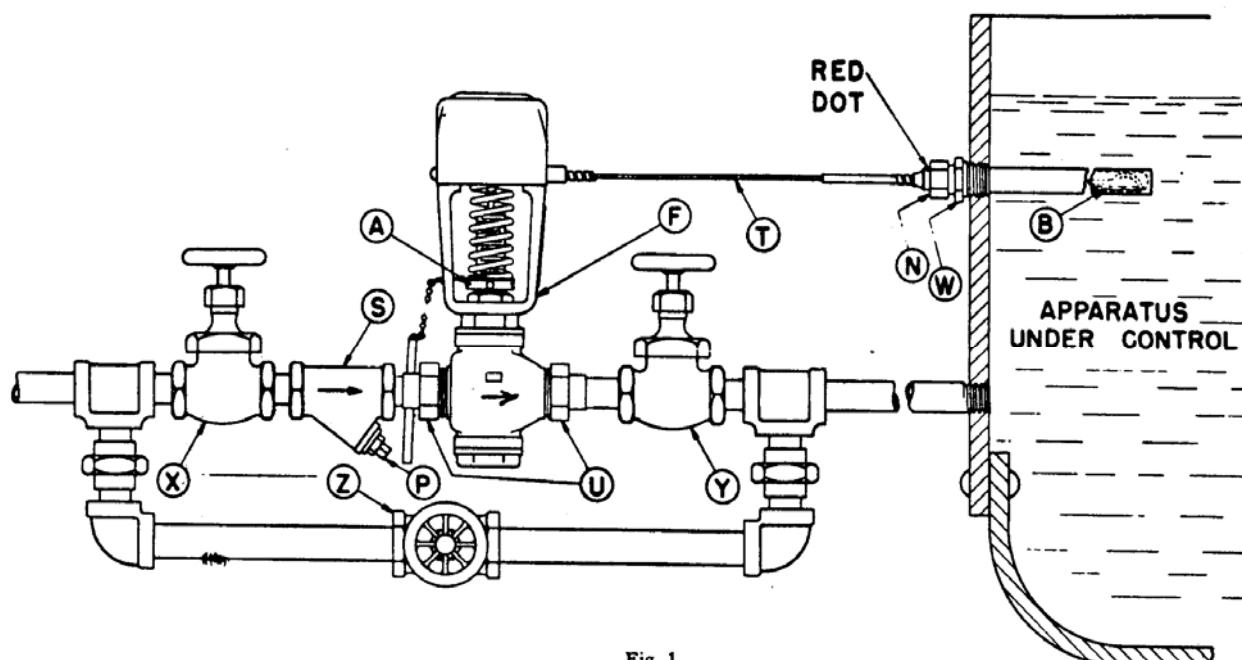


Fig. 1

9.2 INSTALLING THE SENSITIVE BULB

There are 2 types of standard bulb:

SMALL – diam. 15.8

LARGE – diam. 25.4

The STANDARD bulb (fig. 2 ref. 5) can be directly immersed into the fluid: in vessels, in open tanks, in drying chambers, etc..

For application examples, see fig. 3

Fitted with a UNION CONNECTION (fig. 2 ref. 6-7) it can be directly immersed in the fluid in pressurised tanks. Pressure must not exceed 17.5 atm with the small bulb and 8.4 atm with the large and extra-large bulb.

Fitted with a WELL ASSEMBLY (fig. 6), it can be emerged in tanks at higher pressures or in corrosive fluids. For application examples, see fig. 3



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The sensitive elements cannot be subject to temperatures higher than those indicated in tab. 1 below.

Tab. 1

SENSITIVE ELEMENT ASSEMBLY				
Type of SENSITIVE ELEMENT	Calibration range (°C)	Bulb diameter (mm)	Bulb length (mm)	Max. length of capillary (metres)
SBE 724 D	-25 ÷ 20	25,4	403	4,55
SBE 724 F	10 ÷ 60	25,4	403	3,05
SBE 724 H	20 ÷ 75	25,4	403	6,1
SBE 724 K	35 ÷ 90	25,4	403	6,1
SBE 724 M	55 ÷ 100	15,8	352	12,2
SBE 724 P	70 ÷ 125	15,8	352	12,2
SBE 724 R	110 ÷ 170	15,8	352	12,2
SBE 724 T	140 ÷ 210	15,8	352	12,2
SBE 724 V	165 ÷ 225	15,8	352	12,2

For use with particularly aggressive chemicals, the POLYVINYL-lined STANDARD sensitive system is available.

For this type of bulb, the permitted temperature varies from a minimum of 35°C to a maximum of 100°C.

In an environment subject to alternate heating and cooling, the temperature can never **the same everywhere**.

Therefore, the installation point of the bulb must be chosen so that it represents the temperature requiring regulation as well as possible.

When regulating the temperature of **large vessels**, install the bulb near the heating element; if the bulb is installed far away from the heating element, in fact, hotter areas can be generated near the heating element.

BULBS WITHOUT UNION CONNECTION, that is, STANDARD BULBS, can be installed vertically with the capillary facing upwards, and horizontally; in this case **incline the bulb** so that the free end is **lower** than the end to which the capillary is connected.

The bulb must be fitted with bent pins that allow it to expand freely.

Bulbs with union connections or well assemblies (fig. 2 ref. 5-6-7) must be immersed in the fluid they are required to regulate up to the lengths indicated in tab. 2.

If the bulb is not emerged far enough, BAD REGULATIONS are obtained.

If the well assembly is required, the film of air between the BULB and the WELL ASSEMBLY hinders heat transmission.

To improve regulation speed, place a mixture of GRAPHITE AND GLYCERINE, or SILICON GREASE for high temperatures.



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For installing, starting and servicing the AT series of temperature regulators

MOUNTING BULBS WITH UNION CONNECTION OR WELL ASSEMBLY.

Loosen the nut "N" of the connection joint (or well assembly) "W" using two wrenches (see fig. 1).
Pull off the complete connection (or well assembly) from the bulb.
Secure the "W" connector in its seat. The threading is conical because it is the only type that can guarantee a seal.
If it is not possible to make a conical thread according to ANSI B2-1NPT, we supply a flange for welding with a conically threaded hole NPT (fig. 2 ref. 7)
Immerse the bulb up to the indicated length (tab. 2)
Turn the bulb until the red dot is facing upwards.
Tighten the nut "N".

10. STARTING UP AND CALIBRATING THE TEMPERATURE REGULATOR

To calibrate the temperature regulator, immerse a thermometer directly, or with a well assembly, into the relevant fluid.
Use tab. 1 to roughly calibrate the regulator.

Allow the fluid flow and read off the regulated temperature on the thermometer. Read the temperature again a few minutes after thermal balance is obtained.

Then, using the plug (21) fig. 4-5 supplied with the regulator, turn the set ring (10) fig. 4-5 by fractions of a turn until the required temperature is achieved, bearing in mind that the temperature will INCREASE when the spring is loaded and DECREASE when it is released.
Wait for the temperature to stabilise between one movement and the next.



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Fig. 2

Rif./Ref.	Tipo/Type	Applicazioni/Applications
4		Bulbo standard - applicazione per vasche aperte Standard bulb - used on open vessels
5		Bulbo con giunto di collegamento - applicazione su apparecchi a pressione Bulb with union connection - used on pressure vessels
6		Bulbo con pozzetto filettato - applicazione su apparecchi a pressione elevata - possibilità di smontare il bulbo senza svuotare l'impianto Bulb with screwed well assembly - used on high pressure vessels - in this case it is possible to remove the bulb without emptying the vessel
7		Bulbo con pozzetto flangiato - applicazione su apparecchi a pressione elevata - possibilità di smontare il bulbo senza svuotare l'impianto Bulb with flanged well assembly - used on very high pressure vessels - also in this case it is possible to remove the bulb without emptying the vessel

I pozzetti rif. 6-7 sono realizzabili anche ricavati da barra con lunghezza massima di immersione di 500 mm. per pressioni massime di 160 bar per i bulbi piccoli e 100 bar per i bulbi grandi.

The well assemblies ref. 6-7 can be manufactured also from bar with a maximum length of 500 m/m for a maximum pressure of 160 bar for small bulbs, and 100 bar for big bulbs.

Tipo bulbo Bulb type	d	d1	A	C	D	B	Pressione massima bar Max pressure in bar			
							Rif./Ref. 4-5	Rif./Ref. 6-7		
								20°C	95°C	205°C
Piccolo Small	15,8	20	3/4 NPT	340	267	ND40 NP16-64 ANSI 150-600RF	17,5	84	77	70
Grande Big	25,4	29	1" NPT	390	318	ND40 NP16-64 ANSI 150-600RF	8,4	40	36	33

DEFINIZIONE BULBI

- 4 - Bulbo senza giunto e senza pozzetto
- 5 - Con giunto in AISI 316
- 6 - Con pozzetto standard in AISI 316
- 7 - Con pozzetto speciale

BULB DEFINITION

- 4 - Bulb without connection and without thermowell
- 5 - Bulb with AISI 316 union connection
- 6 - Bulb with standard AISI 316 thermowell
- 7 - Bulb with special thermowell

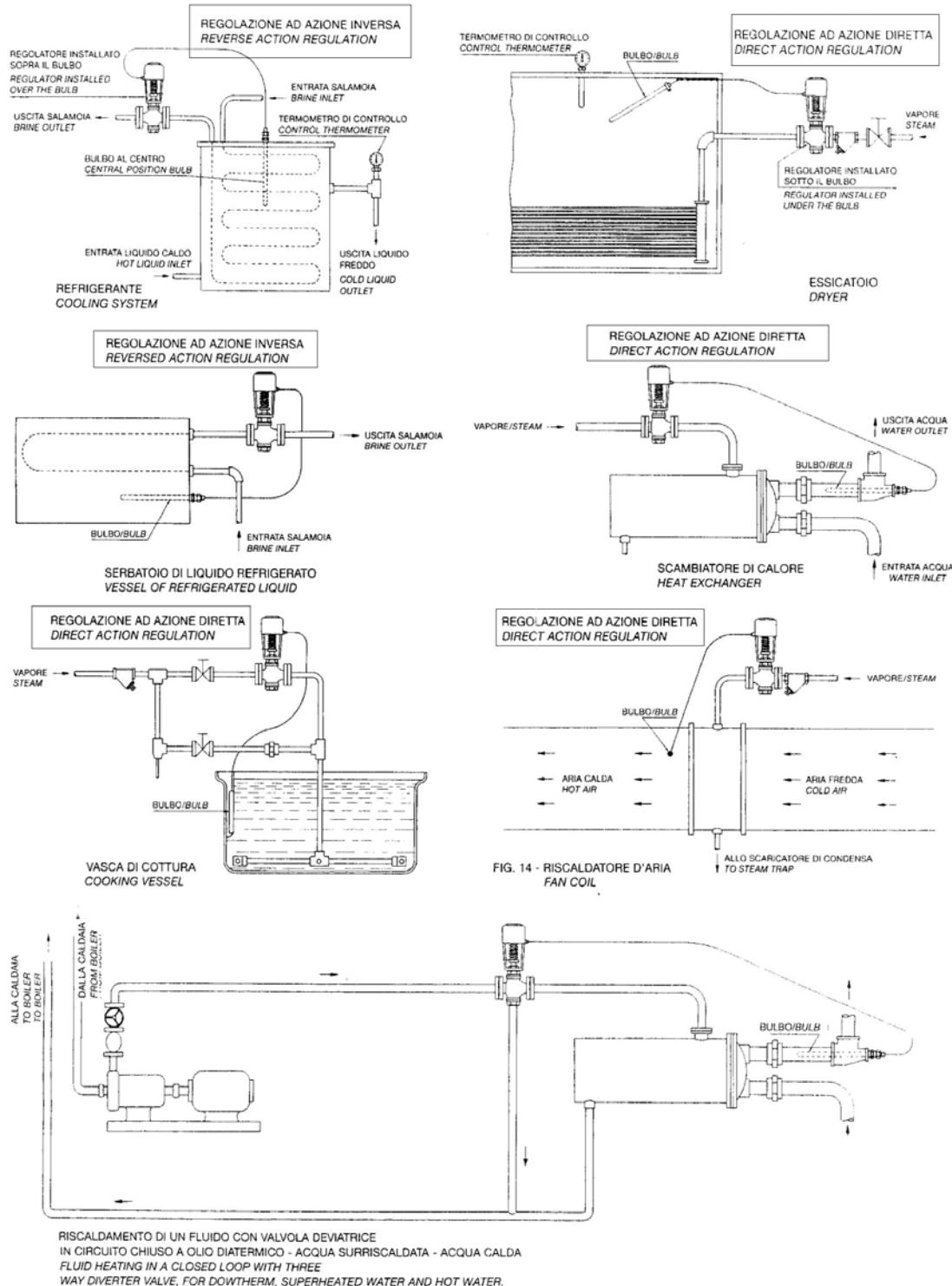
Tab. 2



INSTRUCTIONS

For installing, starting and servicing the AT series of temperature regulators

11. DRAWINGS AND INSTALLATION EXAMPLES (Fig. 3)



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12 SERVICING THE TEMPERATURE REGULATOR

IMPORTANT: The stem of the valve has no packing gland.

NEVER TURN THE VALVE STEM; the seal is achieved by a bellows and therefore EVEN THE SLIGHTEST ROTATION OF THE VALVE STEM WOULD IRREPARABLY DAMAGE THE BELLOWS.

Vent FILTER "S" at regular intervals by removing the plug "P". (see fig. 1).
To perform this operation rapidly, install a valve instead of the plug "P".

Regularly check the mesh of the filter "S" to make sure it is clean and replace if necessary.

12.1 REPLACING THE SENSITIVE SYSTEM AND SET SPRING

For temperature regulators with diameters ranging from $\frac{1}{2}$ " to 2", all the sensitive systems (bellows-capillary-bulb) are **INTERCHANGEABLE**.

There are also 4 types of springs for covering different calibration ranges.

Tab. 3 below shows the various ranges.

Tab. 3

Copper-plated SPRING		Silver-plated SPRING	
IDEAL calibration point (°C)	SMALL calibration point (°C)	IDEAL calibration point (°C)	LARGE calibration point (°C)
-2	-25 \div 10	5	-25 \div 20
33	10 \div 45	43	10 \div 60
47	20 \div 60	57	20 \div 75
58	35 \div 70	72	35 \div 90
140	110 \div 155	150	110 \div 170
173	140 \div 190	187	140 \div 210
188	165 \div 200	205	165 \div 225
Red SPRING		Blue SPRING	
IDEAL calibration point (°C)	SMALL calibration point (°C)	IDEAL calibration point (°C)	LARGE calibration point (°C)
75	55 \div 85	85	55 \div 100
95	70 \div 110	103	70 \div 125

12.2 REPLACING THE SENSITIVE SYSTEM

When replacing the sensitive system there are two possibilities:

Sensitive systems with minimum temperature in the calibration range LOWER than 45°C

Sensitive systems with minimum temperature in the calibration ranger HIGHER than 45°C

While no special operations are required in the 2nd case, in the 1st case the sensitive element must be dismounted and mounted bearing in mind the following:

At ambient temperature, the pressure of the steam inside the sensitive system (BULB+CAPILLARY+BELLOWS) is too high to allow the frame to be dismounted (or the piece of wood inside the bellows to be removed).

In these conditions, dismounting the frame or removing the piece of wood would irreparably damage the bellows.

To reduce the pressure in the sensitive system, REDUCE the temperature of the entire sensitive system, as specified in tab. 4.

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Tab. 4

Sensitive systems with minimum temperature in the calibration range °C	Cool the sensitive system to °C	Suggested cooling systems
35	10 or lower	Tap water mixed with ice
20	0 or lower	Ice crushed with water
10	-12 or lower	Ice crushed with salt
-25	-37 or lower	Alcohol and dry ice

Leave the entire sensitive system in the cooling bath for 15 minutes before removing it from the frame, or first remove the piece of wood from the bellows.

To dismount the sensitive element, prepare a 60 mm long piece of wood with a diameter of 35-38 mm and two 100 mm long steel pins with a diameter of 4 mm. After dismounting the sensitive element, place the piece of wood inside the bellows and push the two pins through the holes connecting it to the frame of the bellows box in order to keep the piece of wood inside the bellows.

To prevent the pins from coming out, thread the two ends and tighten the related nuts.

Dismount and mount the bellows as FAST as possible as soon as they have been removed from the bath in order to prevent the temperature from rising.

ALWAYS KEEP THE BULB IN THE COOLING BATH until the bellows have been fixed to the frame, or after mounting the piece of wood inside the bellows with the related pins.

AFTER DOING THE ABOVE, THE SENSITIVE SYSTEM CAN HEAT UP WITHOUT DANGER OF DAMAGE.

12.3 DISMOUNTING:

1. Fully lower the set RING (10) fig. 4-5 using the **PIN** in order to eliminate the compressive force of the spring.
2. Remove the **SCREWS** connecting the bellows box to the frame (8)
3. Remove the **SENSITIVE SYSTEM**
4. Make sure the **spring** is the right one for the required calibration range (see tab. 3).
5. Install the new SENSITIVE SYSTEM and proceed in reverse order.

12.4 REPLACING THE SPRING:

Proceed as in points 1/2/3 above.

4. Remove the RS4 SEEGER ring (13).
5. Remove the WASHER, disk and SPRING
6. Replace the spring

VERY IMPORTANT:

When changing the spring, the load limiting spring box is released.

The stroke of the valve is very accurately calibrated in the workshop by screwing the load limiting spring box onto the valve stem.

The valve stroke is extremely important in temperature regulators.

ALTERING THE VALVE STROKE MEANS COMPROMISING THE PERFORMANCE OF THE REGULATOR.

Never screw or unscrew the load limiting spring box on the rod, otherwise the bellows may break.

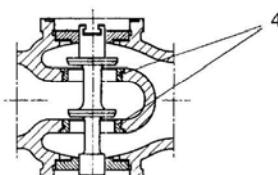
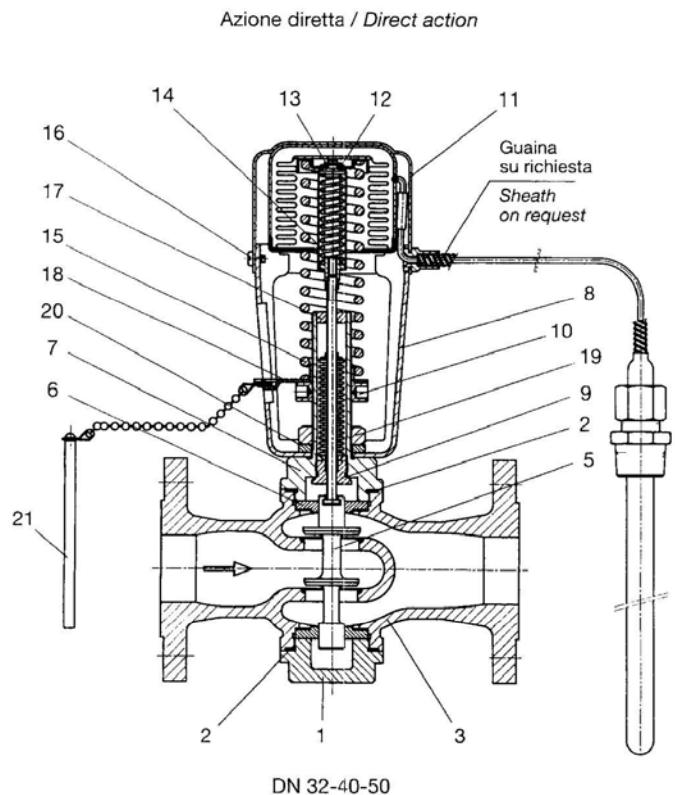


INSTRUCTIONS

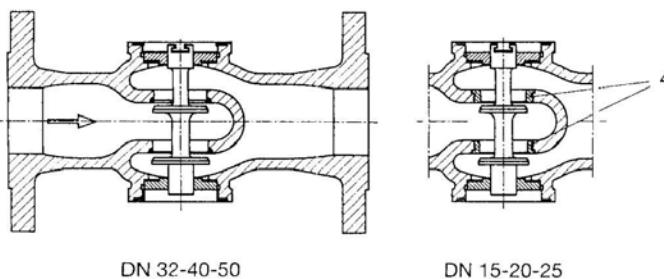
For installing, starting and servicing the AT series of temperature regulators

13. CROSS-SECTION DRAWINGS OF THE TEMPERATURE REGULATORS

13.1 Cross-section drawing AT/S2/D - AT/S2/R (Fig. 4)



Azione inversa / Reverse action



1	Tappo per corpo valvola Valve body cover	
*2	Guarnizione Gasket	
3	Corpo valvola Valve body	
4	Sede Seat	
*5	Tappo di regolazione Plug	
*6	Guida tappo di regolazione Plug guide	
7	Manicotto Sleeve	
8	Incastellatura Frame	
*9	Asta soffietto Stem with bellows	
10	Anello regolazione molla Spring adjusting ring	
*11	Gruppo elemento sensibile Sensitive element assembly	Soffietto Bulbo + Capillare Bellows Bulb + Capillary
12	Rondella Washer	
13	Anello "Seeger" "Seeger" ring	
14	Gruppo limitatore di carico Load limiting device assembly	
15	Molla di taratura Set spring	
16	Vite Screw	
17	Bussola guida asta Stem guide bushing	
18	Indicatore compressione molla Spring adjusting pointer	
19	Dado bloccaggio incastellatura Frame nut	
20	Rondella Washer	
21	Spina regolazione molla Adjusting pin	

* Ricambi consigliati / Recommended spare parts

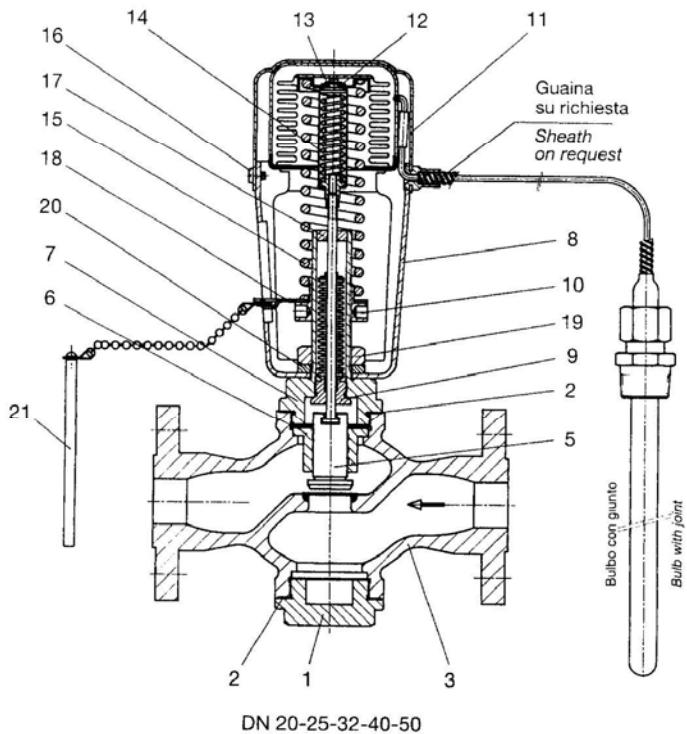


INSTRUCTIONS

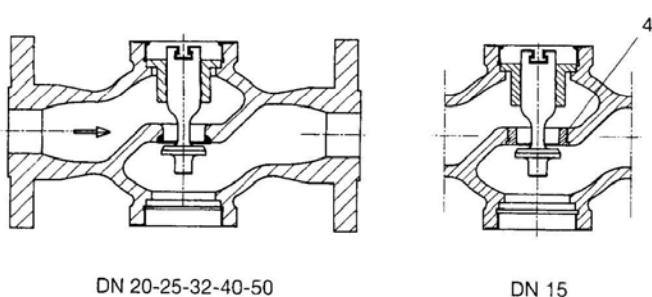
For installing, starting and servicing the AT series of temperature regulators

13.2 Cross-section drawing AT/S1/D - AT/S1/R (Fig. 5)

Azione diretta / Direct action



Azione inversa / Reverse action



1	Tappo per corpo valvola Valve body cover	
*2	Guarnizione Gasket	
3	Corpo valvola Valve body	
4	Sede Seat	
*5	Tappo di regolazione Plug	
*6	Guida tappo di regolazione Plug guide	
7	Manicotto Sleeve	
8	Incastellatura Frame	
*9	Asta soffietto Stem with bellows	
10	Anello regolazione molla Spring adjusting ring	
*11	Gruppo elemento sensibile Sensitive element assembly	Soffietto Bellows Bulbo + Capillare Bellows Bulb + Capillary
12	Rondella Washer	
13	Anello "Seeger" "Seeger" ring	
14	Gruppo limitatore di carico Load limiting device assembly	
15	Molla di taratura Set spring	
16	Vite Screw	
17	Bussola guida asta Stem guide bushing	
18	Indicatore compressione molla Spring adjusting pointer	
19	Dado bloccaggio incastellatura Frame nut	
20	Rondella Washer	
21	Spina regolazione molla Adjusting pin	
* Ricambi consigliati / Recommended spare parts		



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VALVOLE E STRUMENTAZIONE

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E-MAIL: info@carrarovavole.it
TEL.(02) 269912.1 - FAX.(02) 2692.2452

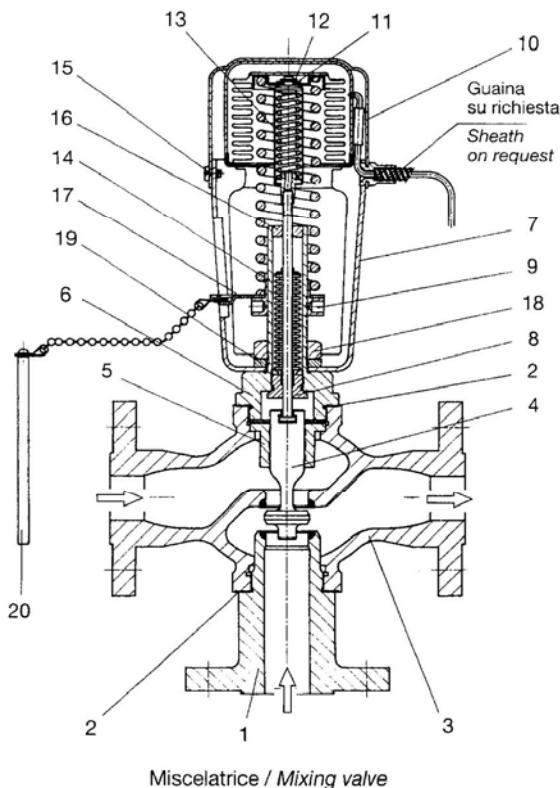
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INSTRUCTIONS

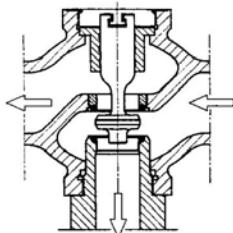
For installing, starting and servicing the AT series of temperature regulators

13.3 Cross-section drawing AT/3V (Fig. 6)

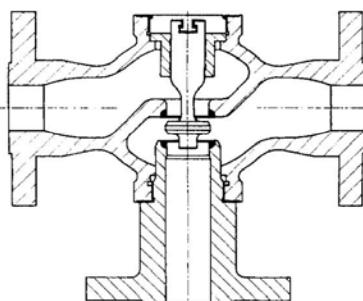


1	Terza via / Third way body
*2	Guarnizione / Gasket
3	Corpo valvola / Valve body
*4	Tappo di regolazione / Plug
*5	Guida tappo di regolazione / Plug guide
6	Manicotto / Sleeve
7	Incastellatura / Frame
*8	Asta soffietto / Stem with bellows
9	Anello regolazione molla Spring adjusting ring
*10	Gruppo elemento sensibile Sensitive element assembly
	Soffietto Bulbo + Capillare Bellows
11	Rondella / Washer
12	Anello "Seeger" / "Seeger" ring
13	Gruppo limitatore di carico Load limiting device assembly
14	Molla di taratura / Set spring
15	Vite \ Screw
16	Bussola guida asta Stem guide bushing
17	Indicatore compressione molla Spring adjusting pointer
18	Dado bloccaggio incastellatura Frame nut
19	Rondella / Washer
20	Spina regolazione molla Adjusting pin
21	Bocchello / End connection
22	Flangia slip-on / Slip-on flange

* Ricambi consigliati / Recommended spare parts

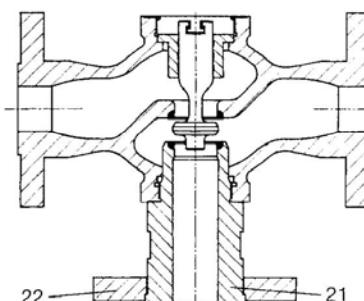


Deviatrice / Diverter



Azione - L'aumento della temperatura regolata provoca la chiusura della terza via

Action - The increase in controlled temperature cause third way closing



Esecuzione con flangia tipo slip-on su terza via
Slip-on companion flange on third way



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I N S T R U C T I O N S

For installing, starting and servicing the AT series of temperature regulators

14. REPAIRS

14.1 If it is not possible to eliminate the problems, send faulty valves to the supplier/manufacturer, together with a description of the problem.

14.2 To receive spare parts or information, always quote the series number shown on the rating plate attached to the valve or punched on the outer surface of the flanges.

14.3 Rating plate (example)



14.4 To ensure the valves treated in this manual work correctly, they should be serviced by Carraro engineers or by Carraro-authorised Service Centres using original spare parts.



CAUTION

The maker declines all liability for modifications to the product or operations that are not contemplated in this manual.



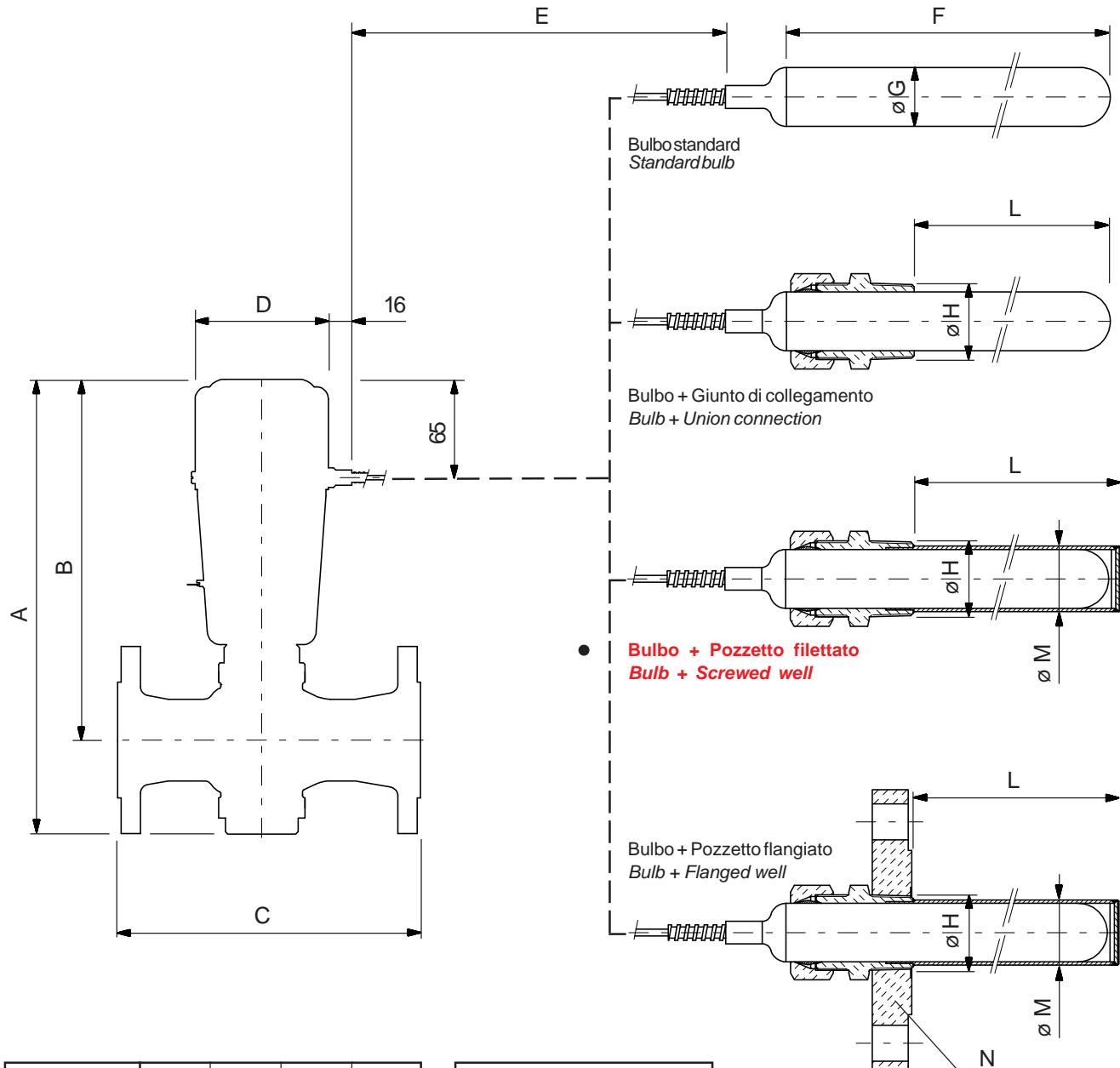
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Valvola tipo: / Valve type: "AT/S1/D" - "AT/S1/R" - "AT/S2/D" - "AT/S2/R"

TAG:TCV.62.1



DN Attacchi Connections ND	A	B	C	D
● 15 (1/2")	302	238	190	89
20 (3/4")	302	238	194	89
25 (1")	314	244	197	89
32 (1.1/4")	330	252	213	89
40 (1.1/2")	330	252	235	89
50 (2")	330	252	267	89

ATTACCHI FLANGIATI FLANGED ENDS	
<input type="checkbox"/> UNI PN/NP 16-25-40	
<input type="checkbox"/>	
<input checked="" type="checkbox"/> ANSI 150 RF	
<input type="checkbox"/> ANSI 300 RF	
<input type="checkbox"/>	

E CAPILLARE (Lunghezza) CAPILLARY (Length)	
<input type="checkbox"/> 2440 mm	<input checked="" type="checkbox"/> 6100 mm

TIPO BULBO BULB TYPE (dimensioni) (dimension)	Bulbo standard Standard bulb		Bulbo + Giunto collegamento Bulb + Union connection		Bulbo + Pozzetto filettato Bulb + Screwed well		Bulbo + Pozzetto flangiato Bulb + Flanged well	
	Ø G	F	Ø H	L	Ø H	L	Ø M	N
PICCOLO SMALL	15,8	340	<input type="checkbox"/> 3/4" NPT	267	<input type="checkbox"/> 1-1/2" NPT-M	267	20	<input type="checkbox"/> UNI DN/ND 40 PN/NP 16-25-40
GRANDE BIG	25,4	390	<input type="checkbox"/> 1" NPT	318	<input checked="" type="checkbox"/> 1-1/2" NPT-M	318	29	<input type="checkbox"/> 1.1/2" ANSI 150 RF

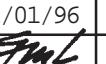
N.B.: I pozzetti sono realizzabili anche ricavati da barra con lunghezza massima di 500 mm.
Note: The well assemblies can be manufactured also from bar with a maximum length of 500 mm.

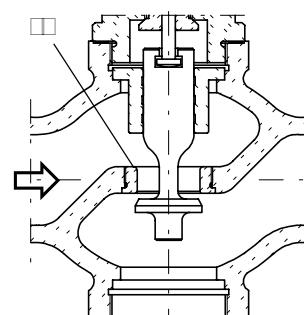
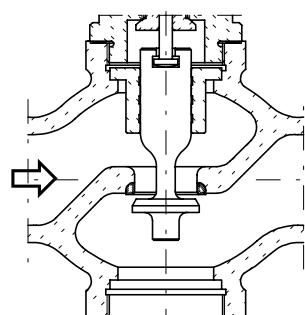
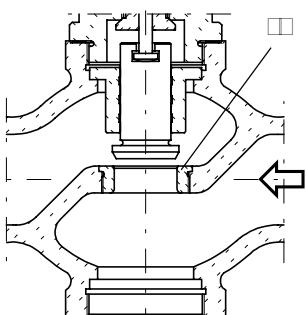
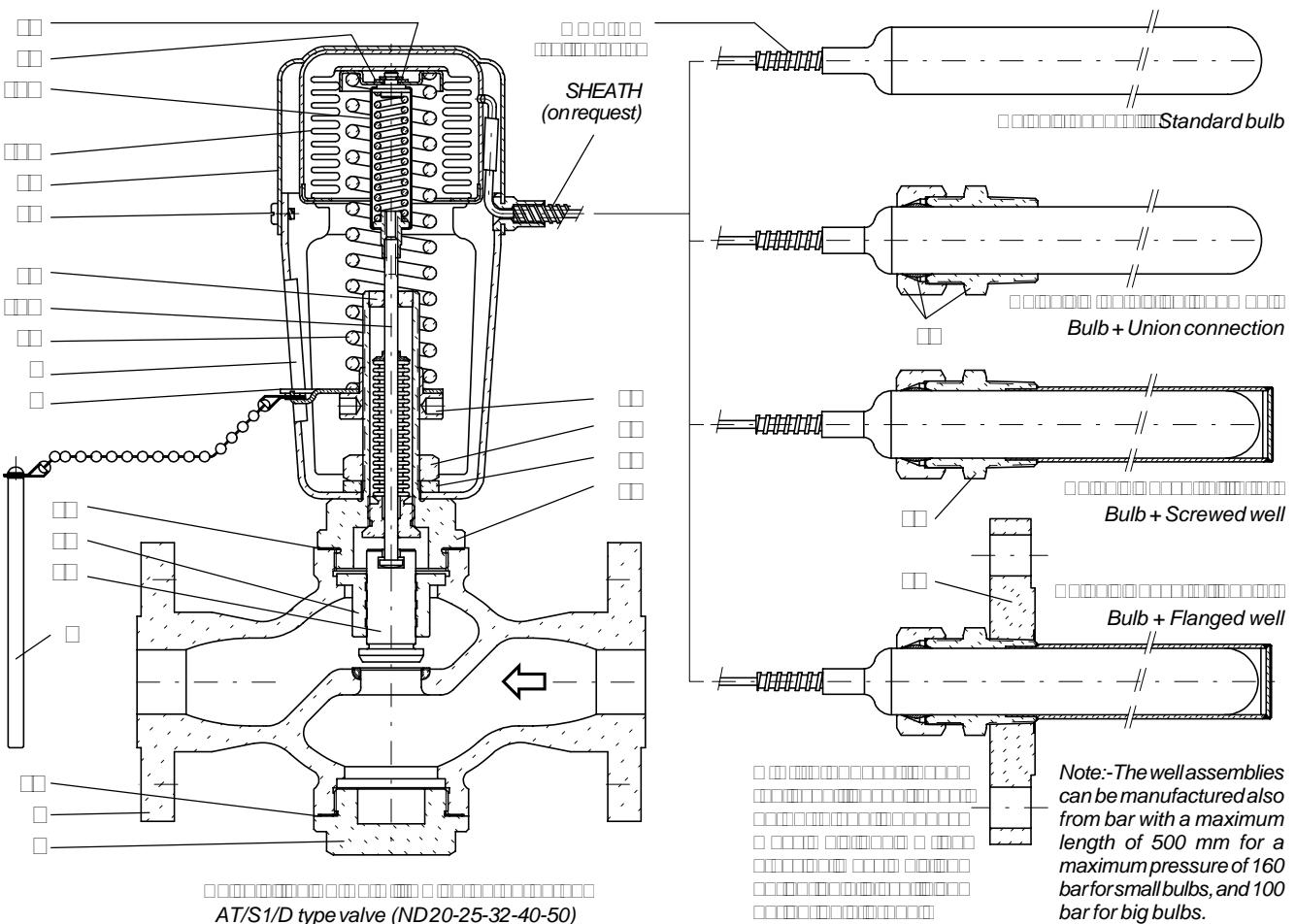
La CARRARO si riserva il diritto di modificare in qualsiasi momento e senza preavviso, le caratteristiche dei prodotti qui illustrati. CARRARO reserves the right to modify the characteristics of here described products at any time and without notice.



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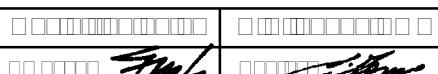
Rev. 0 - 31/01/96 DIS. 93097.PM4
Emesso:  Approvato: 



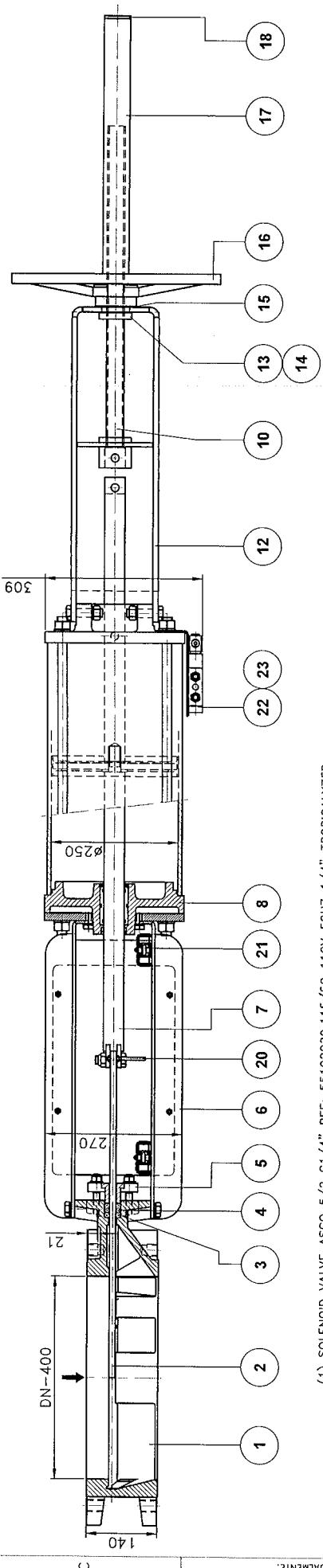
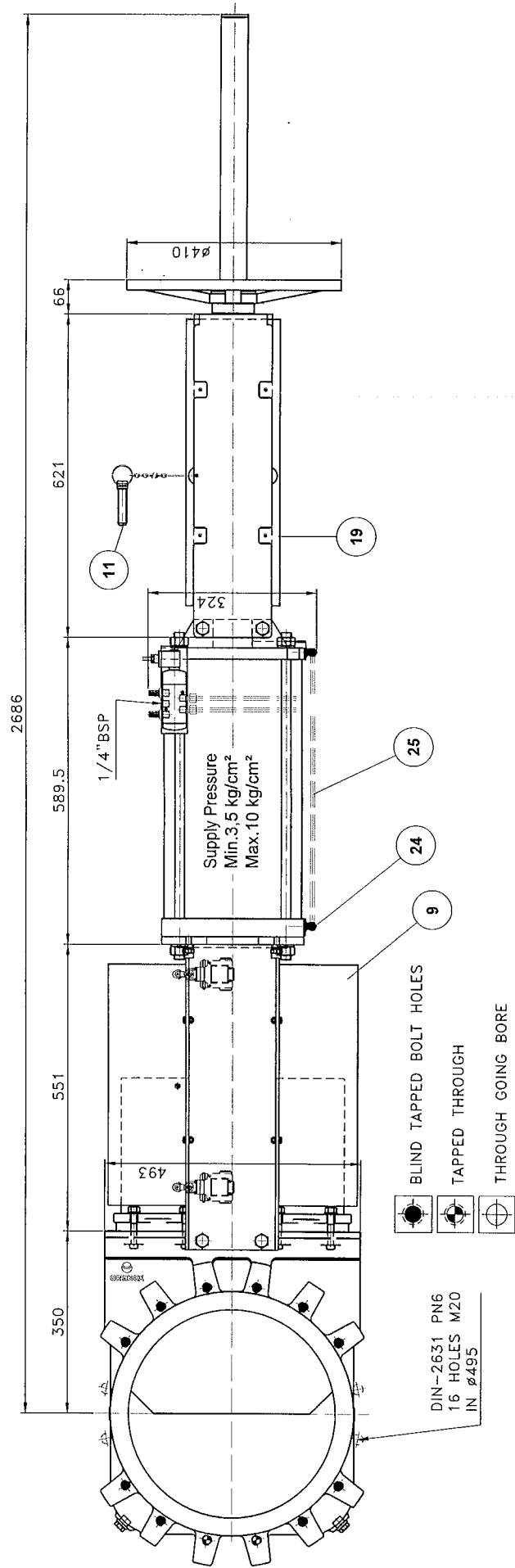
cover	Frame	Sensitive element assembly (Bellow-Bulb-Capillary)	Spring adjusting ring
Valve body	Spring	Load limiting device assembly	Nut
Gasket	Stem with bellow	Washer	Washer
Adjusting pin	Stemguide	Lock ring	Sleeve
Plug	Screw		Union connection
Plug guide	Frame cover		Well
Gasket			Well flange
Spring pointer			Seat

RECOMMENDED SPARE PARTS

CARRARO reserves the right to modify the characteristics of here described products at any time and without notice.



*DIMENSIONS IN mm.



(1) SOLENOID VALVE ASCO 5/2 G1/4" REF: 55102029, 115/50 110V 50Hz 1/4" TROPICALIZED

NUMBER	PART NAME	QUANTITY	MATERIAL	NUMBER	PART NAME	QUANTITY	MATERIAL
25	BOLTS&NUTS	8	STEEL	1	SPINDLE WASHER	15	FRICITION WASHER
25	PNEUMATIC PIPE	8	POLYURETHANE (max. 90°C)	14	SPINDLE NUT	1	BRASS
24	FITTINGS	1	STEEL+PLASTIC	13	GUIDE BUSH	1	BRASS
23	SOLENOID VALVE (1)	1	ASCO 5/2 G1/4" 110V 50Hz	12	UPPER YOKE	1	NYLON
22	SOLENOID VALVE SUPPORT	1	ST.ST. DIN-1-4301 (ASTM AISI304)	11	PIN	1	CARBON STEEL DIN-10044 (ASTM AISIGr.40)
21	LIMIT SWITCH	2	TELEMÉCANIQUE XCK-M115-TH	10	SPINDLE	1	ST.ST. DIN-1-4305 (ASTM AISI303)
20	LIMIT SWITCH ACTUATOR	1	ST.M. DIN-1-4301 (ASTM AISI304)	9	LOWER GUARDS	2	ST.ST. DIN-1-4301 (ASTM AISI304)
19	UPPER GUARDS	2	ST.M. DIN-1-4301 (ASTM AISI304)	8	D/A PNEUMATIC CYLINDER	1	ORBINOX Ø250
18	CAP	1	PLASTIC	7	STEM	1	ST.ST. DIN-1-4301 (ASTM AISI304)
17	SPINDLE PROTECTOR	1	CARBON STEEL DIN-10044 (ASTM AISIGr.40)	6	YOKE	1	CARBON STEEL DIN-10044 (ASTM AISIGr.40)
16	HANDWHEEL	1	DUCTILE IRON DIN-0-7040 (GGG40)	5	PACKING GLAND	1	DUCTILE IRON DIN-0-7040 (GGG40)

NUMBER	PART NAME	QUANTITY	MATERIAL	NUMBER	PART NAME	QUANTITY	MATERIAL
1	1	1	CAST IRON DIN-0-6025 (GJL250)	1	1	1	CAST IRON DIN-0-6025 (GJL250)
2	2	2	EPDM (max. 120°C)	2	2	2	SYNTHETIC PTFE (PH 2-3 max.240°C)
3	3	3	ST.ST. DIN-1-4301 (ASTM AISI304)	3	3	3	ST.ST. DIN-1-4301 (ASTM AISI304)
4	4	4	STAINLESS STEEL DIN-1-4301 (ASTM AISI316)	4	4	4	STAINLESS STEEL DIN-1-4301 (ASTM AISI316)
5	5	5	STAINLESS STEEL DIN-1-4301 (ASTM AISI304)	6	6	6	STAINLESS STEEL DIN-1-4301 (ASTM AISI304)
6	6	6	STAINLESS STEEL DIN-1-4301 (ASTM AISI304)	7	7	7	STAINLESS STEEL DIN-1-4301 (ASTM AISI304)
7	7	7	STAINLESS STEEL DIN-1-4301 (ASTM AISI304)	8	8	8	STAINLESS STEEL DIN-1-4301 (ASTM AISI304)

ORBINOX

ORBINOX

DIN-400

140

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RAPPORTO DI COLLAUDO N° - TEST REPORT N°

RDC 0808/2012

Ordine N° P.O.. Order N°	121263 Job 2F11A		data - date	29/05/2012
Cliente - Customer: Ns conf. - Our Ref. N°	DESMET BALLESTRA S.P.A. 52255	item 1	data - date	04/06/2012

Codice materiale - Code number: V02C4EO01C6K	Quantità - Quantity: 1	Matricole S/N: H68962
REG.TEMP.MOD.AT/S2/D *CAP.6,10 Diam:15 (0,5")/15 (0,5") PN/Rating: 150 RF CAMPO 35+90°C.TAR.80°C. TAG=TCV.62.1		

PROVE, COLLAUDI, VERIFICHE - TESTS AND INSPECTIONS

		Esito - Result
PROVA IDRAULICA - HYDROSTATIC TEST		
Pressione - Pressure: LATO ENTR./USC. - INLET/OUTLET = 30	BAR	SENZA PERDITE NO LEAKAGE
Controllo visivo e dimensionale - Visual and dimensional inspection		POSITIVO - POSITIVE
Prova funzionale al banco - Bench functional test		POSITIVO - POSITIVE
Verifica della tenuta - Tightness test		POSITIVO - POSITIVE

Certificati materiale parti in pressione - Material certificates:

Componenti - Components:	Materiale - Material	Colata - Heat	N°CERTIF.	Contrassegno Carraro - Carraro Mark	Fornitore - Supplier
Corpo valvola-Valve body	ASME SA-216 WCC	L625	1159/J	N.A.	FONDERIA AUGUSTA
Sede-Seat	ASME SA-479 431 (S43100) (1.4057)	416975	331864/2007	VA176	Valbruna
Tappo corpo valvola-Body cover	ASME SA-216 WCC	JJ820	EXP/547	N.A.	RAJAN
Manicotto-Sleeve	ASTM A-350 LF2 Class1	11/75388	276	MB50	Stamperia di Menzago
Otturatore-Plug	ASME SA-479 316/316L (1.4401/1.4404)	85933R	C0107030C	NXA830	Terninox

CLIENTE - CUSTOMER	ENTI UFFICIALI - OFFICIAL BODIES	CARRARO QC
		Date:27/09/2012

FONDERIA AUGUSTA

ACCIAIO E LEGHE SPECIALI

CERTIFICATO MATERIALE
Abnahme prüzeugnis
Material Certificate

EN10204 / 3.1 N° 1159/J

DEL von 12/04/2011 PAG. 1 / 1
of page

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ITALIA

Ordine Nr. Bestell Nr. Order Nr.	Pos. Quantity Menge Quantità	Articolo Gegenstand Article	Modello Modell Model	Descrizione Beschreibung Description	Materiale Werkstoff Material	Descr. Norma Norm Standard	Peso Unitario Einzelgewicht Unit Weight	Colata Schmelze Charge	Tritt. termico/Heat treatment/Wärmebehandlung Temperatur : °C Zeit min. Time min.	Raffreddamento Abkühlung Cooling
7958	1	10	34111	34111	CORPO VALVOLA	A216M-07	6,0	L625	920	180
7958	2	8	34134	34134	CORPO	A216M-07	4,6	L625	920	180

Tipo Prova:
Prova Attaccata
Angegossene Probe
Test bar type:
Cast-On

Prova separata
Separate Probe
Separate

Tipo di elaborazione:
Erschmelzungsart:
Melting process:

Prova Colata Proben- Schiemeier Test Charge	Limite elast. Dehngrenze Proof stress 0,2% N/mm²	Sfornamento Dehngrenze Proof stress 1% N/mm²	Carico rottura Zugfestigkeit Strength 1% N/mm²	Allungamento Bruchdehnung Elongation %	Strizione Einschnürung Reduction of Area %	Durezza Härte Hardness HB30	t °C	J	Resilienza Kerbshlagszähigkeit Impact value				Composizione Chimica % / Chemische Zusammensetzung in % / Chemical composition %									
									C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Nb	V	W	N	Fe
L625	341	525	34,0	70,4	148,0	-29	100	94	92	0,147	0,48	1,15	0,017	0,007	0,38	0,06	0,01	0,222	0,004			

Eseguito controllo visivo con esito positivo
Sichtkontrolle mit positivem Ergebnis durchgeführt
Visual inspection with positive result was made

Eseguito controllo dimensionale con esito positivo
Maßkontrolle mit positivem Ergebnis durchgeführt
Dimensional inspection with positive result was made

Eseguito controllo dimensionale con esito positivo
Maßkontrolle mit positivem Ergebnis durchgeführt
Dimensional inspection with positive result was made

Eseguito controllo visivo con esito positivo MSS SP 55
Sichtkontrolle mit positivem Ergebnis durchgeführt MSS SP 55
Visual inspection with positive result was made MSS SP 55

Eseguito controllo dimensionale con esito positivo NACE MR0175-ISO 15156
Maßkontrolle mit positivem Ergebnis durchgeführt NACE MR0175-ISO 15156
Dimensional inspection with positive result was made

Le fusioni rispondono al livello qualità : NACE MR0175-ISO 15156
Die Gußstücke entsprechen der Gütestufe:
The casting complies to class:

Le richieste in ordine sono soddisfatte
Die Auftragsanforderungen sind erfüllt
Order requirements were satisfied



Sigla del produttore
Herstellerzeichen
Trade Mark

Acciaierie Valbruna s.p.a.



36100 VICENZA (Italia) - Viale della scienza, 25 z.i.

Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

Cliente / Besteller/Purchaser/Client
AV - MAG CORMANO
VIA BIZZOCZERO, 125
20032-CORMANO-MI

Produttore: ACCIAIERIE VALBRUNA S.P.A.

Hersteller/Item/Usine produtrice

CARRARO

Oggetto Prove: - Bonificato Pelato
Prüfgegenstand/Item Inspected/Finissage

Avviso di Spedizione: A-VI06007629
Lieferanzeige/Packing list/B

Tulon 129

Ordine nr: TRASFERIMENTO
Bestell/Your order/Commande

Tipo di Elaborazione: E+AOD
Erschmelzungsart/Melting process/Mode d'elaboration

Certificato nr: MEST331864/2006/
Prüfung/Test/Essai

Conferma ordine nr: MI06002367
Werks/Our Order/Ref nr.

Marchio di Fabbrica:
Zeichen des Lieferwerkes
Trade mark
Sigle de l'usine produtrice



Punzone del Collaudatore:
Stempel des Werkssachverständigen
Inspector's stamp/Poinçon de l'assayeur



Specifiche:
Anforderungen / Requirements / Exigences

VAL STOCK QT800 2005 1.4057/431 QT800
ASTM A276 2005A S43100
EN 10088-3 2005 1.4057 QT800
(0) SEC.II PT.A 2004 EDITION ADD.2005

AISI 431
ASTM A479 2005A S43100 T
EN 10272 2000 1.4057 QT800

ASME SA479 2004 S43100 T (0)
DIN 17440 96 1.4057 V

Qualità: 1.4057/431
Werkstoff/Grade/Nuance

Marca: VAL4
Markenbezeichnung/Brand/Nuance

Punzonatura: 1.4057/431
Kennzeichnung/Marking/Marquage

Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegenstand Product description Descrip. du produit	Dimensioni - mm Abmessungen Dimension Dimension	Tolleranza Toleranz. Allowance Tolerance	Lunghezza - mm Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pièces	Peso - KG Gewicht Weight Poids	Lotto nr. Losnr. Lot nr. Lot nr.
0010	Tondo	40,000	K12-MIN	5400 / 5400	416975		948,0105	524800490

Sono state soddisfatte tutte le condizioni richieste
Die gestellten Anforderungen sind it. Anlage erfüllt
The material has been furnished in accordance with the requirements
Le matériel a été trouvé conforme aux exigences

Controllo antimescolanza: OK
Verwechslungsprüfung: spectralanalytisch durchgeführt
Antimixing testing performed: OK
Contrôle antimélange fait: r.a.s.

Controllo visivo e dimensionale: soddisfa le esigenze:
Besichtigung und Ausmessung: ohne Beanstandung
Visual inspection and dimensional checks:satisfactory
Contrôle visuel et dimensions: satisfaisant

TEST	Provetta/Probestab Specimen/Eprovette Larg.diam. Spec. Breadth Diam. Dicke Width Diam. Thickness Larg. diam. épais. mm	°C Posiz. Saggio Probenlage Location Emplacement 1)	Snergamento Streckgrenze Yield Stress Limite élastique Rp 0,2% N/mm2	Resistenza Zugfestigkeit Tensile strength Resistance à traction Rm N/mm2	Allungamento Bruchdehnung Elongation Allongement	Strizione Einschnürung Reduction of area Striction	Resilienza Kerbschlagarbeit Impact Value Resilience KV J	Durezza Härte Hardness Durée HB
Valori richiesti 1 Anforderungen/Required values Values demandées	min max	620	-	800 950	14 15	-	45	25 - 321
A	10	20 L	751		935	17 19	55	55 60 58 56 292

1)L=longitudinale/längs, Q=trasversale/quer, T=Tangenziale/tangential

Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Olata /Heat Schmelze/Coulée	min 0,12 max 0,20	- 1,00	- 1,00	15,00 17,00	1,50 2,50	- 0,040	- 0,030	- -							
416975	C % 0,16	Si % 0,34	Mn % 0,67	Cr % 15,87	Ni % 1,90	P % 0,025	S % 0,020								

Melted and manufactured in Italy No welding or weld repair Material free from Mercury or radio-activity contamination

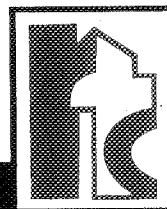
The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] Annex 1,s.,4.3 by TUEV and LLOYD'S



V A 176

M.Rizzotto
[Signature]

Vicenza,22/03/06 VCQ008 (Mod. MCER)	Il collaudatore di stabilimento / der Werkssachverständige / Works inspector / L'agent d'usine <i>[Signature]</i>	Pagina - 1 di 1
---	--	-----------------



MATERIAL TEST CERTIFICATE					AS PER EN 10204-3.1	
M/S.: CARRARO S.R.L. 1-20090 SEGRATE (MI), VIA ENRICO FERMI 22, ITALY. INDIA.					CERTI.NO :EXP/547	DATE: 24.07.10
					INV.NO.:EXP/116	DATE: 24.07.10
					P. O. NO. :6832	DATE:
POS.	QTY.	DIE NO.	DESCRIPTION	HEAT NO.	CAST MARKAGE	
1	239	53012	TAPPO CORPO VALVOLA DRG.NO.:43502	JJ-820	WCC	
2	146	53012	TAPPO CORPO VALVOLA DRG.NO.:43502	JJ-821	WCC	
3	010	53012	TAPPO CORPO VALVOLA DRG.NO.:43502	JJ-842	WCC	
4	415	53012	TAPPO CORPO VALVOLA DRG.NO.:43502	JJ-951	WCC	
5	275	53012	TAPPO CORPO VALVOLA DRG.NO.:43502	KK-291	WCC	

SPECIFICATION : ASTM A-216, GR-WCC-07 & NACE MR 0175-2003

CHEMICAL COMPOSITION

HEAT NO	C	Si	Mn	S	P	Cr	Ni	Mo	CE VALUE		
MIN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
MAX.	0.250	0.60	1.20	0.045	0.040	0.50	0.50	0.50	0.55		
JJ-820	0.173	0.46	0.77	0.010	0.014	0.24	0.04	0.01	0.35		
JJ-821	0.215	0.40	0.92	0.012	0.017	0.32	0.06	0.01	0.44		
JJ-842	0.199	0.45	0.95	0.013	0.016	0.25	0.07	0.01	0.41		
JJ-951	0.200	0.47	0.85	0.016	0.020	0.27	0.10	0.02	0.41		
KK-291	0.166	0.43	0.86	0.012	0.015	0.26	0.04	0.01	0.37		

MECHANICAL PROPERTIES

HEAT NO	HARDNESS	TENSILE TEST			Redn. %	IMPACT TEST(-29°C)				LATERIAL EXPANTION		
		TENSILE Mpa	YIELD POINT Mpa	ELONG %		IMPACT VALUE(J)	MIN.	27J	1	2	3	Avg.
MIN.		485	275	22.00	35.00	MIN. 27J				MIN		
MAX.	210	655				1	2	3	Avg.			
JJ-820	176	552	314	24.82	40.28	35	39	31	35	0.39	0.31	0.28
JJ-821	171	548	328	25.12	39.78	30	32	36	32	0.41	0.34	0.36
JJ-842	176	542	318	26.12	40.29	31	38	40	36	0.29	0.33	0.32
JJ-951	171	500	345	25.75	43.55	35	32	33	33	0.36	0.34	0.36
KK-291	171	538	352	25.08	39.84	40	43	41	41	0.34	0.30	0.38

DELIVERY CONDITION: HEATED UP TO 920° C SOAKED FOR ONE HOUR PER INCH THICK NESS AND

AIR COOLED

WE HERE BY CERTIFY THAT ITEMS MENTIONED ABOVE CONFIRM TO : ASTM A-216,GR.WCC-07 & NACE MR 0175-2003.

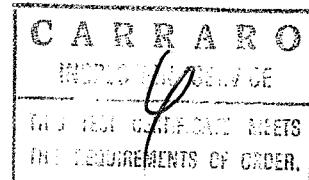
'NO RADIOACTIVE CONTAMINATION DETECTED'

FOR, RAJAN TECHNO CAST PVT. LTD.

TESTED BY :

QUALITY ASSURANCE DEPTT.
DEVEN JOSHI

DEVEN JOSHI



Office / Works :

Shapar, Via : Bhaktinagar, Tal. : Kotha Sangani

Dist. : Rajkot - 360 002. (Gujarat) INDIA.

Phone : +91-2827-252160/61, FAX : +91-2827-252562

E-Mail : info@rajantechcast.com

An
ISO 9001 2008
Company**TUV NORD**PED 97/23/EC
AD 2000-Merkblatt WO



STAMPERIA DI MENZAGO s.r.l.
STAMPAGGIO A CAIDO DELL'ACCIAIO
via della conciliazione 39 / tel. 0331-905.196 / fax 908.511
21040 MENZAGO DI SUMIRAGO / va / Italy



CERTIFICATO DI CONFORMITA'
CONFORMITY CERTIFICATE

N° 276

Pag. / Page di / of

CLIENTE CUTOMER CARRARO S.r.L.		NOME DEL PRODOTTO NAME OF THE PRODUCT MANICOTTO		DISEGNO DRAWING N° 34910					
				Indice ultima modifica 2 Index of last modification Data Date					
RIFERIMENTO ALL'ORDINE ORDER N° 8331 Del/Dated 10/03/11 ALLEGATO AL RIMESO ENCLOSED TO THE DOCUMENT OF THE TRANSPORT N° Del/Dated		FABBRICATO CON ATTREZZATURA MANUFACTURED WITH EQUIPMENT PROVVISORIA PROVISIONAL DEFINITIVA DEFINITIVE	TIPO DI CONSEGNA TYPE OF DELIVERY CALCO IN PIOMBO MODEL IN LEAD CAMPIONATURA SAMPLES LOTTO PARCEL	QUANTITA' QUANTITY 420					
CAUSALE DEL CERTIFICATO: REASON OF THE CERTIFICATE:		PRODOTTO NUOVO NEW PRODUCT	ATTREZZATURA NUOVA NEW EQUIPMENT	VERIFICA SISTEMATICA SYSTEMATICAL VERIFICATION					
CERTIFICAZIONE DELLA QUALITA' DEL PRODOTTO / CERTIFICATION OF THE QUALITY OF THE PRODUCT									
N° Ref.	QUOTE CONTROLLATE CHECKED QUOTES	VALORI PRESCRITTI PRESCRIBED VALUES	Strumenti di Misura Utilizzati Equipment use for measures	LIMITI MIN E MAX RILEVATI MIN AND MAX LIMITS FOUNDED	VALORI OTTENUTI SU SINGOLI PEZZI CONTROLLATI VALUES OBTAINED ON THE INDIVIDUAL CHECKED PIECES				
					1	2	3	4	5
	DIAMETRO	24 +0,8 -0,4	26A	23,6 23,8	23,6	23,6	23,8	23,8	23,8
	DIAMETRO	64,5 +0,9 -0,5	26A	64,4 64,5	64,5	64,5	64,4	64,4	64,4
	DIAMETRO	50 +0,9 -0,5	26A	49,9 50	49,9	50	50	50	49,9
	DIAMETRO	59 +0,9 -0,5	26A	59,1 59,3	59,2	59,1	59,2	59,3	59,2
	LARGHEZZA	46 +0 -0,4	26A	45,8 45,9	45,9	45,8	45,8	45,8	45,8
	SPESSORE	30 +0,8 -0,4	26A	30,1 30,2	30,1	30,2	30,2	30,2	30,2
	SPESSORE	112 +1,2 -0,6	EHK6003	112,1 112,4	112,2	112,1	112,1	112,4	112,1
	SPESSORE	8 +0,7 -0,4	26A	7,9 7,9	7,9	7,9	7,9	7,9	7,9
	ALTEZZA	13 +0,8 -0,4	EHK6003	13,3 13,3	13,3	13,3	13,3	13,3	13,3
ACCIAIO UTILIZZATO UTILIZED STEEL		COLATA CASTING	MARCATURA MARKING	TRATTAMENTO ESEGUITO TREATMENT	VALORI RILEVATI FOUNDED VALUES				
ASTM A350 LF2		11/75388	Q						
					<p>CARRARO QUALITY SERVICE THIS TEST CERTIFICATE MEETS THE REQUIREMENTS OF ORDER.</p>				
DUROMETRO UTILIZZATO: UTILIZED DUROMETER:		A200 <input type="checkbox"/>	BRE/AUT100 <input type="checkbox"/>						
RELATORI DI PROVA ALLEGATE / RELATIONS OF ENCLOSED RESULTS									
CERTIFICATO ACCIAIERIA / STEELWORKS CERTIFICATE <input checked="" type="checkbox"/> BOLETTINO TRATTAMENTO TERMICO / HEAT TREATMENT CERTIFICATE <input type="checkbox"/> CERTIFICATO 31/31 CERTIFICATE <input type="checkbox"/> NOTE: REMARKS: TRATTAMENTO TERMICO NON ESEGUITO									
DICHIARAZIONE DI CONFORMITA' DEL PRODOTTO / DECLARATION OF CONFORMITY OF THE PRODUCT LA CONFORMITA' DELLA FORNITURA, ALLE PRESCRIZIONI CONTENUTE NEI DISEGNI, CAPITOLATI, NORME, TABELLE, ED EVENTUALE CAMPIONE DEPOSITATO, E' ASSICURATA DA SISTEMATICI CONTROLLI A CUI IL PRODOTTO VIENE SOTTOPOSTO THE CONFORMITY OF THE SUPPLY TO THE PRESCRIPTIONS IN THE DRAWINGS, CONTRACTS, NORMS, TABLES AND POSSIBLE DEPOSITED SAMPLE, IS ASSURED FROM SYSTEMATICAL INSPECTIONS WHICH THE PRODUCT IS SUBORDINATE									
DATA / DATE 10 maggio 2011	COMPILATO DA / FILLED IN FROM 	C.Q. / QUALITY CONTROL 							

 <p>STABILIMENTO DI LESENGO 12076 Lesegno(CN) - Via Statale, 28 Nord tel. 0174 718111 Fax 0174 77251</p> <p>sede legale e amministrativa: Viale Certosa, 249 - 20151 Milano telefono 02 30700 - (defax 02 3800346 - 38003147 - 38002974) cap. soc. L 10.600.000,00 codice fiscale, partita Iva e numero istruttoria Registro Imprese Milano 03521290158 Società con Unico Azionista soggetta all'attività di Direzione e Coordinamento di PIA FIRE S.p.A.</p> <p>ACCIAIO STEEL ACIER STAHL ASTM A105LF2/SP</p> <p>COLATA HEAT COULEE SCHMELZE 11/75388</p> <p>PROFILO SHAPE TONDO SECTION PROFIL MM 40,00 UNI 7620</p> <p>STATO DI FORNITURA DELIVERY COND. LAM. TONDO ÉTAT DE LIVRAISON LIEFERZUSTAND BARRE MT. 5,500</p> <p>ORDINE ORDER COMMANDE BESTELLUNG 11/00002</p> <p>CONFIRMA CONFIRMATION CONF DE COMM AUFTRAGSBESTÄTIGUNG 07 JS306 022</p>												<p>CERTIFICATO DI COLLAUDO Inspection certificate Certif. de reception n° 3268 Abnahmeprofzeugnis DATA 27.01.11</p> <p>RIFERIMENTO: 1 UNI EN 10204/2005 - 3.1</p> <p>CERTIFICHAMO CHE IL PRODOTTO RELATIVO A QUESTO DOCUMENTO È CONFORME ALLE PRESCRIZIONI CITATE IN ORDINE</p> <p>CLIENTE: PAPANI ACCIAI S.R.L. VIA CARONNO VARESINO, 64 CP 40 21048 SOLBIATE ARNO</p> <p>PROCESSO: FUSIONE AL FORNO ELETTRICO COLAGGIO PROTETTO IN C.C. Q160</p>						
PRELIEVO TEST ESSAI PRÜFUNG	COMPOSIZIONE CHIMICA % - CHEMICAL ANALYSIS % - COMPOSITION CHIMIQUE % - CHEMISCHE ZUSAMMENSETZUNG % C. COLATA - L. SUL LAMINATO																	
	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	Sn	As							
	0,180	0,87	0,20	0,012	0,010	0,10	0,04	0,02	0,15	0,007								
	A	Ti	V	W	B				C.E.	F.B.								
	0,025	0,018	0,017	0,001	0,0000						0,36							
PRELIEVO TEST ESSAI PRÜFUNG	CARATTERISTICHE MECCANICHE - MECHANICAL PROPERTIES - CARACTÉRISTIQUES MÉCANIQUES - MECHANISCHE EIGENSCHAFTEN C. DI COLATA - L. SUL LAMINATO - T. SUL TRAFILATO																	
	CAMPIONE SAMPLE	PROVETTA TEST	R _e 0 mm	R _b 8 mm	A5	Z	KCU	KV	HB	TRATTAMENTO TERMICO HEAT TREATMENT TRAITEMENT TERMIQUE WARMEBEHANDLUNG								
		N/mm ²	N/mm ²	%	%	J	J											
	30	10	497	309	33,5	58,5		50,0			PROVETTA NORMALIZZATA							
CAMPIONE SAMPLE	PROVA JOMINI - JOMINY TEST - ESSAI JOMINY - STIRNASSCHRECKVERSUCH										NORMALIZZ. TEMPRA °C							
	mm	1,5	3	5	7	9	11	13	15	20	25	30	35	40	45	50		
	HRC																	
CAMPIONE SAMPLE	GROSSEZZA GRANO AUSTENITICO - AUSTENITIC GRAIN SIZE - GROSSEUR DE GRAIN - KORNGRÖSSE																	
		6						METODO	MAC QUAD - EHN <input checked="" type="checkbox"/>	ISO 643 UNI 3245 ASTM E112								
CAMPIONE SAMPLE	MICROPUREZZA - MICRO INCLUSION RATING - TAUX DE MICROINCLUSION - MIKROSKOPISCHER REINIGKEITSGRAD																	
	ASTM/E45 METODO A SCALA JERKONTORET A 1S B 2S C 0 D 1S						METODO	JERKONTORET <input checked="" type="checkbox"/> K (SEP 1570) <input type="checkbox"/>	ASTM E 45 - MET. A NF AC4 - 106 DIN 55602 / UNI 3244									
ALTRI PROVE - OTHER TESTS - AUTRES ESSAIS - SONSTIGE PRÜFUNGEN																		
3 VALORI RESILIENZA 50,6 J - 47,9 J - 51,5 TASSO DI RID. 20,63													CONTROLLO ANTIMESCOLAMENTO ESEGUITO					
NOTE - REMARKS - BEMERKUNGEN				NOTE - REMARKS - BEMERKUNGEN				RESPONSABILE CONTR. QUALITA'										
				STAMPERIA DI MENZAGO S.R.L. SERVIZIO CONTROLLO QUALITA' <u>10/03/2011</u>				O.C. MANAGER O.S. VERANTWORTLICHER G. PIUMATTI										



TERNINOX

Una società della ThyssenKrupp Acciai Speciali Terni

COPIA CONFORME ALL'ORIGINALE

DDT NR. - ITEM NR. 01

Client Order NR. 6884 - Material Code

Pag. 1/1



INSPECTION CERTIFICATE/CERTIFICAT DE BÉCÉDOR/

כונן ינשוף

Date of Issue
Club Division
Kung-fu Division

3-JUL-2001	Cart No C0107030CC
Print	

Engineering Sleasay
Rutherford Works
P.O. Box 30, Altrincham L1
Rutherford 360 1044
Telephone: 01709 826311
Fax: 01709 826192

P.O. Box 50, Altwakale Ltd
Rotherham S60 1DW
Telephone: 01709 826311
Fax 01709 826182

C A R R A R O
INSPECTION SERVICE

Line 10: Commercial Chem Autopack, Inc., San Francisco	201/1053	Specimen Identified, Name and Grade Chem Var. Number, in Appropriate Specifying SPECS	316/718L IN 1-8 ADDITIONAL
Method Order No. No. of Reference Materials Number, etc. (Indicate)	CD7/21173	Incubating Periods Incubation Temperature Method of Preparation	Electrically Heated, Continuously Incubating
Description Description of Product Description of Extractions	25.2 mm (RU) BAR	Control of Microbial Detergent Wash Treatment	Pealed, Peeled, Solution Treated
Quantity Quantity		Impacting Authority Organizations or Comittee Responsible	
" Export "			

TERNINOX S.p.A. con Unico Socio

Sede legale: Viale B. Brin 218 - 05100 Terni Italy

Uffici, Direzione Commerciale, Amministrazione, Magazzino: Via Milano 12 20020 Ceriano Laghetto (MI) Tel. +39 02 969821

RAPPORTO DI COLLAUDO N° - TEST REPORT N°:

RDC 0808/2012

Ordine N° P.O.. Order N°:	121263 Job 2F11A		data - date	29/05/2012
Cliente - Customer: Ns conf. - Our Ref. N°	DESMET BALLESTRA S.P.A. 52255	item	2	data - date 04/06/2012

Codice materiale - Code number: 920X01V029	Quantità - Quantity: 1	Matricole S/N: .
XCN/C.I. DN 400 PN 6 Diam:400 (16") PN/Rating: TAG=WV.62.1		

PROVE, COLLAUDI, VERIFICHE - TESTS AND INSPECTIONS

PROVA IDRAULICA - HYDROSTATIC TEST (SEE ENCLOSED CERTS.)	Esito - Result

Controllo visivo e dimensionale - Visual Control	POSITIVO - POSITIVE

Certificati materiale parti in pressione - Material certificates:

Componenti - Components:	Materiale - Material	Colata - Heat	N°CERTIF.	Contrassegno Carraro - Carraro Mark	Fornitore - Supplier
XCN					

CLIENTE - CUSTOMER	ENTI UFFICIALI - OFFICIAL BODIES	CARRARO QC
		Date:27/09/2012 



**CERTIFICATE OF MATERIALS
CERTIFICADO DE MATERIALES
EN 10.204-3.1**

**TEST REPORT
CERTIFICADO DE PRUEBAS
EN 10.204-2.2**

Customer/Cliente : CARRARO,S.R.L.

Order N°/ Su pedido N° : 284

Our Order/ Nuestra O.S: 233416

ITEM / ITEM 1
QUANTITY / CANTIDAD 1
SIZE / DIAMETRO DN 400 (16")
RATING / NORMA PN 6
DESCRIPTION / DESCRIPCIÓN K.G.V. XCN04 HIMST PN6 DN-400

BODY MATERIALS / MATERIALES

	Body / Cuerpo	Gate/ Compuerta	Seat / Cierre	Stem / Eje	
Material / Material	CAST IRON / FUNDICION DE HIERRO	STAINLESS STEEL / ACERO INOXIDABLE	METAL	STAINLESS STEEL / ACERO INOXIDABLE	
Specification / Especificación	GJL250	AISI 304 (th=12)	--	AISI 304 (Ø40)	
Certificate of Origin / Certificado de Origen	INFESTA	OUTO KUMPU	--	ROLDAN	

PRESSURE TEST/PRUEBAS DE PRESIÓN

Valve / Válvula	Fluido	Pressure Presión BAR	Duration Duración Mins.	Leak Rate Fuga c.c./min	Permitted Leakage Fugas c.c./min
HYDROSTATIC SHELL TEST PRUEBA DE LA CAJA	WATER AGUA	9	5	0	0
HYDROSTATIC SEAT TEST PRUEBA DEL CIERRE	WATER AGUA	6,5	2	<0	0

FUNCTIONAL TEST / PRUEBAS DE FUNCIONAMIENTO

2/3 OPERATIONS OPEN & CLOSE

Customer Inspec./VBº Cliente	Quality Control / VBº Control Calidad	DATE / FECHA
	 <i>[Handwritten signature over the logo]</i>	26/09/12

FUNDICIONES INFiesta, S.A.



C/ Nicolás Redondo Urbista, s/n
 POLÍGONO INDUSTRIAL SOMONTE III
 Apartado 4.182
 33280 - GIJON - ASTURIAS
 Teléfonos: 985 321 310 - 985 300 580
 Telefax: 985 320 152
 Correo electrónico (e-mail): info@fundicionesinfiesta.com
 Web: http://www.fundicionesinfiesta.com

CERTIFICADO DE CALIDAD – INSPECTION CERTIFICATE

<input type="checkbox"/>	2.1	CERT. DE CUMPLIMIENTO CON EL PEDIDO
<input type="checkbox"/>	2.2	CERT. BASADO EN REGISTROS DE CONTROL DE CALIDAD
<input type="checkbox"/>	2.3	CERT. BASADO EN ENSAYOS DE CONTROL DE CALIDAD
<input checked="" type="checkbox"/>	3.1.	CERT. DE ENSAYOS

CERT. N°:	1337/12
FECHA:	14/09/12
HOJA:	I DE 1

CLIENTE:	ORBINOX, S.A.
REFERENCIA:	CUERPO XCDN-400
CANTIDAD:	1
CALIDAD:	GG-25

PEDIDO:	326387
PLANO:	XC0013A1
ALBARÁN:	
NORMA:	UNE-EN 1561

ANÁLISIS QUÍMICO (%)

PÓSICIÓN	CANTIDAD	COLADA	C	Si	Mn	P	S
1	1	056/423/H2	3.36	2.27	0.94	0.04	0.04

Cu	Ni	Al	Cr	Nb	Mo	Sn	Mg
0.33							

CARACTERÍSTICAS MECÁNICAS

RESISTENCIA A LA TRACCIÓN (MPa)	LÍMITE ELÁSTICO (MPa)	ALARGAMIENTO (%)	RESILIENCIA (Julios)	DUREZA (HB)
257	184	0.4		

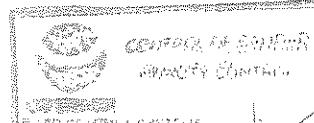
ANÁLISIS METALOGRÁFICO

FERRITA (%)	PERLITA (%)	CEMENTITA (%)	ESFEROIDES (%)	GRAFITO	TAMAÑO	TIPO

OBSERVACIONES

LABORATORIO CONTROL DE CALIDAD

FUNDICIONES INFiesta, S.A.
 C/ Nicolás Redondo Urbista, s/n
 (FISA) Polígono Ind. Somonte III-Selliejo
 33280 GIJON
 Teléfonos 985 321 310-TELE 985 320 152



OUTOKUMPU

Avesta Works
QCM. Johan Nordström

Your order - Ihre Bestellung - Votre commande

09/11/04

Purchaser - Besteller - Acheteur

LASOR PROCESOS, S.L.
ERROTA 2 INDUSTRIALDEA
PAB. 9,
ES-20270 ANOETA (GUIPUZCOA)
SPAIN

Dest.

LASOR PROCESOS, S.L.

Product - Erzeugnisform - Produit

Stainless Steel Hot Rolled, Coil-Plate
finish 1D, cut edge

Grade - Werkstoff - Nuance

Outokumpu 18-8L
TYPE 304L/1.4307

J12

Brand mark Herstellerzeichen Signe du producteur	OUTOKUMPU	Inspectors stamp Abname - Stempel Estamp de l'expert	AJA	Melting process Erschmelzungart Procédé de fusion	E+AOD
Extent of delivery - Lieferumfang - Etendue de livraison					
Item Pos Poste	Pcs Anzahl Nombre	Dimensions - Abmessungen - Dimensions kg mm	Heat No Schmelze Nr Coulée No	Lot No Los Nr Lot Nr	
3	14	6024 12.00 1500 3000	493158	- 002	

Chemical composition - Chemische Zusammensetzung - Composition chimique											
	C	Si	Mn	P	S	Cr	Ni	Nb	Cu	Co	N
Heat	.019	.29	1.55	.030	.001	18.25	8.07	.014	.38	.14	.07

Radioactive contamination check acc. IAEA recommendations: Satisfactory

Test results - Prüfergebnisse - Results déssais (1N/mm² = 1 MPa) F = Front - Anfang - Début B = Back - Ende - Fin T = Transverse - Quer - Travers

Test Ref	Temp	RP 0.2	RP 1.0	RM	A5	2"	HB
Probe Ref							
Eprouv Ref	°C	N/MM2	N/MM2	N/MM2	%	%	HB
Min	+20	220	250	520	45	40	
Max				700			201
F T	+20	333	384	621	55	57	187
B T		342	391	628	53	56	192

Corrosion acc. ASTM A 262-E, EN ISO 3651-2A: Satisfactory

Heat treatment / Solution annealed: Material temperature 1100 °C / Quenched (forced air + water)

Steel grade verification (PMI-spectroscopic): OK

Marking, visual insp. and gauge measurement: Satisfactory

Certified acc. Pressure Equipment Directive (97/23/EC) by TÜV CERT-Certification body
for pressure equipment of the TÜV NORD GROUP; notified body, reg-no. 0045.



Outokumpu Stainless AB Telephone : + 46 (0)226 813 57
 Business Unit Special Coil & Plate Fax : + 46 (0)226 813 16
 Avesta Works V.A.T no : SE556001874801
 BOX 74, S-774 22 AVESTA
 SWEDEN
 Regoffice: Stockholm Sweden, Regno. 556001-8748

This material is found to comply with order requirements

Johan Jansson

Authorized Inspector



ROLDAN, S.A. - Aceros Inoxidables

FÁBRICA

Santo Tomás de las Ollas, S/N
Apdo de Correos 11
PONFERRADA (LEÓN)
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CERTIFICADO DE INSPECCIÓN

3.1
EN 10204



CERTIFICADO N° 2010/020864

FECHA 5/10/2010

HOJA 1

Nº ALBARAN 2010/069703

MATERIAL ROLDAMAX-229

AISI (304L)

CLIENTE INOXCENTER S.L.

DIMENSIONES 40,00 mm.

LONGITUD 4.100 mm.

TOLERANCIA ISO h11

PRODUCTO Barra descortezada, pulida

REQUERIMIENTOS AISI

PEDIDO DEL CLIENTE

ENSAYOS DE TRACCION EN 10002-1

I10030608

CORRESPONDIENTE

EDICION

CORROSION INTERGRANULAR ASTM-A-262-02a PRACTICE "E" SATISFACTORY

WITHOUT OBJECTIONS

INSPECCION DIMENSIONAL Y VISUAL

WITHOUT OBJECTIONS

Spektrometrical Identity Test: O.K.

ENSAZO DE RESILIENCIA, FORMA DE PROBETA

Nº CONTRATO	TRABAJO N°	MARCA/CAJA	NUMERO COLADA	PROBETA	PESO	SISTEMA DE FABRICACION			SELLO DEL RECEPCIONADOR		
						EAF + AOD + CC	CONTRASEÑA DEL SUMINISTRADOR	CONTRASEÑA	HEAT NUMBER	GRADE (ACX-229)	R3
LN32252 45	LN32252 45 1	52249 / RF37040	T8W5	T8W5	488						

CARACTERISTICAS MECANICAS

COLADA	PROBETA	DIMENSIONES DE LA PROBETA	Observ. T°.	Rm N/mm²	Rp 0,2% N/mm²	Rp 1% N/mm²	Z %	A % %L_sd	Agt %	RESILIENCIA ISO-V (J)			DUREZA HB	TEST DE FATIGA	TEST DE DOBLADO	SECCIÓN mm²	Kg / m
T8W5				632	365	409	69	51					162				
CONDICIONES IMPUESTAS	EN ISO 377																

COMPOSICION QUÍMICA %

COLADA	C	P	S	Si	Mn	Cr	Ni	Mo	Ti	N	Cu					
T8W5	0,0280	0,0330	0,0290	0,3400	1,3930	18,1970	8,0680	0,3300	0,0030	0,0730	0,2920					
CONDICIONES IMPUESTAS	0,0300	0,0450	0,0300	0,7500	2,0000	18,0000	8,0000			0,1000						
						20,0000	12,0000									

OBSERVACIONES



OTROS ENSAYOS

TRATAMIENTO TÉRMICO

CONDICIONES IMPUESTAS



2009 Segrate (MI) - via E. Fermi 22
E-mail: info@carrarovavole.it

Tel. 02 2691201
Fax. 02 26922452

Pag.1/2

DICHIARAZIONE ‘CE’ DI CONFORMITA’ ‘CE’ DECLARATION OF CONFORMITY

In accordo alla Direttiva Attrezzature in Pressione (97/23/CE)
to Pressure Equipment Directive (97/23/CE)

Emesso dal costruttore:
Issued by Manufacturer:

Carraro srl
Via Enrico Fermi, 22
20090 Segrate (MI)

Cliente: - Customer:
DESMET BALLESTRA S.P.A.

N° ordine: - P.O. No: 121263 Job 2F11A
Ns. c.o.: - Our order acknowl. No: 52255

Oggetto: - Subject :

Valvola di regolazione - *Regulating valve*
Tipo - *Type* REG.TEMP.MOD.AT/S2/D *CAP.6,10
Matr.- *Serial No.:* H68962

Il regolatore di temperatura Carraro è una valvola autoazionata che in funzione della variazione della temperatura controllata, varia la portata di un fluido mantenendo costante il valore di temperatura impostato.

Carraro temperature regulating valve is a self-actuated valve, which in relation to the temperature variation of the upstream or downstream medium, changes the flow rate and keeps the temperature value constant.



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Pag.2/2

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In accordo alla Direttiva Attrezzature in Pressione (97/23/CE)
to Pressure Equipment Directive (97/23/CE)

Si dichiara che la valvola in oggetto è conforme ai requisiti della Direttiva 97/23/CE, in particolare risponde ai requisiti essenziali di sicurezza di cui all'All. 1, ma **non** è marcata CE in quanto ricadente nelle previsioni dell'Articolo 3 comma 3.

*We hereby declare that subject valve meets the requirements of Directive 97/23/CE, in particular it meets the essential safety requirements specified under Attach. 1, but it is **not** CE marked since it falls within the provisions of Art. 3 par. 3*

Segrate, 27/09/2012

CARRARO srl – Ing. G. Carraro

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Pag.1/2

DICHIARAZIONE ‘CE’ DI CONFORMITA’ ‘CE’ DECLARATION OF CONFORMITY

In accordo alla Direttiva ATEX (94/9/CE)
to Directive ATEX (94/9/CE)

Emesso dal costruttore:

Issued by Manufacturer:

Carraro srl

Via Enrico Fermi, 22
20090 Segrate (MI)

Cliente: - Customer:

DESMET BALLESTRA S.P.A.

N° ordine: - P.O. No: 121263 Job 2F11A
Ns. c.o.: - Our order acknowl. No: 52255

Oggetto: - Subject :

Valvola di regolazione - *Regulating valve*

Tipo - *Type* REG.TEMP.MOD.AT/S2/D *CAP.6,10

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Il regolatore di temperatura Carraro è una valvola autoazionata che in funzione della variazione della temperatura controllata, varia la portata di un fluido mantenendo costante il valore di temperatura impostato.

Carraro temperature regulating valve is a self-actuated valve, which in relation to the temperature variation of the upstream or downstream medium, changes the flow rate and keeps the temperature value constant.

Procedura di valutazione della conformità

Conformità assessment procedure

Valvola di regolazione - *Regulating valve*

Gruppo / Group: II Categoria / Category: 3 G/D

G = gas, vapori, nebbie, miscele d'aria; / *gas, steams, fogs, air mix;*

D = polveri; / *dusts;*

Modulo A / *A Module*

Controllo di fabbricazione interno / *Internal manufacturing control*

Si dichiara che la valvola in oggetto è conforme ai requisiti della Direttiva 94/9/CE, in particolare risponde ai requisiti essenziali di sicurezza di cui all'Ann. II.

We hereby declare that subject valve meets the requirements of Directive 94/9/CE, in particular it meets the essential safety requirements specified under Annex II.

Segrate, 27/09/2012

Ing. G. Carraro - Carraro S.r.l.

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