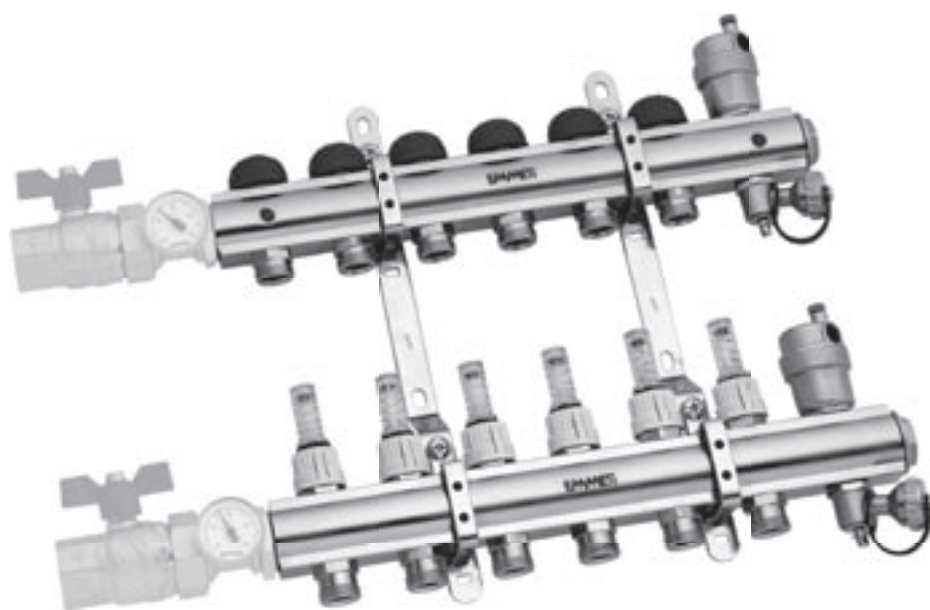


Topway



GB INSTALLATION AND USE MANUAL

EMMETI

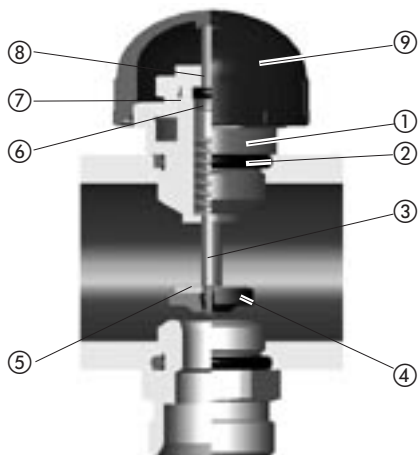


1 Manifold system..... 2

2 Adjustable draining/filling tap 6

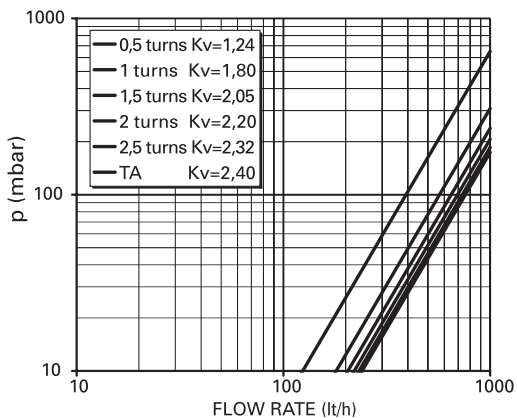
1. MANIFOLD SYSTEM

MANUAL VALVE (FOR ELECTRO-THERMIC HEADS)

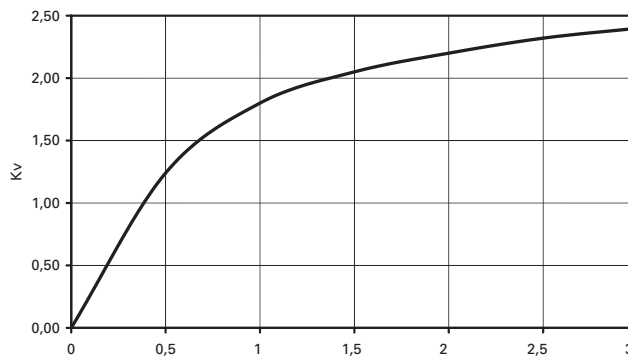


- ① SHUTTER IN BRASS EN 12164 CW614N
- ② EPDM O-RING
- ③ BOLT IN BRASS EN 12164 CW614N
- ④ GASKET IN EPDM
- ⑤ BRASS GASKET EN 12164 CW614N
- ⑥ O-RING FOR SHUTTER IN EPDM
- ⑦ COLLAR IN BRASS EN 12164 CW614N WITH NICKEL FINISH
- ⑧ BOLT IN STAINLESS STEEL AISI 304
- ⑨ CAP IN BLUE ABS (RAL 5005)

Pressure drop
(valve with hand wheel code 01306112)



Kv values
(valve with hand wheel code 01306112)



NOTE:
TA = ALL OPEN THE ABOVE VALUES REFER TO WATER TEMPERATURE 15°C

KNOB OPENING: NO. OF TURNS THAT THE HAND WHEEL IS OPEN

NEW DOUBLE REGULATING LOCKSHIELD

EMMETI HAVE EVOLVED A NEW AND SUPERIOR LOCKSHIELD DESIGN. THIS ALLOWS EASIER, QUICKER AND MORE ACCURATE ONSITE SETTING OF THE CORRECT FLOW. IT IS MORE ACCURATE AT MAINTAINING THE CORRECT LOW FLOW, WHEN SET TO A SMALL APERTURE.

YOU NO LONGER NEED TWO SEPARATE TOOLS TO ADJUST TO A SUITABLE FLOW RATE. FURTHER, THIS LOCKSHIELD CAN BE UPGRADED ON SITE TO BECOME AN INTEGRATED FLOW METER AND LOCKSHIELD.

ADJUST THE LOCKSHIELD AS FOLLOWS:

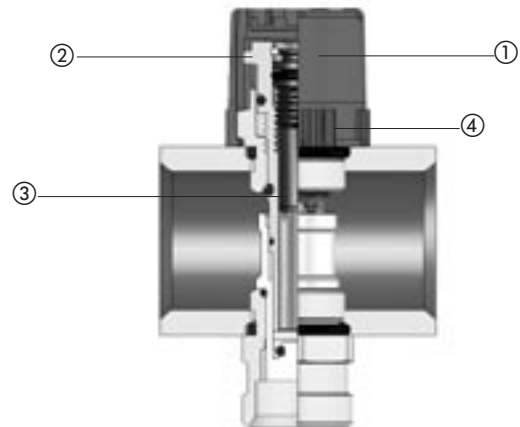
THE LOCKSHIELD IS SUPPLIED IN THE CLOSED POSITION.

- REMOVE THE CAP ①
- TURN THE CAP OVER, AND, USING THE IMPRESSION INSIDE IT, TURN THE ISOLATOR ② ANTICLOCKWISE UNTIL REACHING A FULLY OPEN POSITION.
- USE A 4 mm ALLEN KEY CLOSE THE ADJUSTMENT SCREW CLOCKWISE ③, COMPLETELY, UNTIL REACHING THE END OF STROKE. THE LOCKSHIELD IS NOW READY FOR FLOW SETTING.
- UNSCREW THE ADJUSTMENT SCREW ANTICLOCKWISE ③, BY THE DESIRED NUMBER OF TERMS (PLEASE USE GRAPH ON PAGE 17).
- INSERT THE CAP AGAIN.

IT IS NOW POSSIBLE TO SEAL THE CAP INTO POSITION USING LEAD, TAKING ADVANTAGE OF THE HOLES PRESENT IN THE FINS ④ IN ORDER TO FASTEN DIRECTLY TO THE MANIFOLD, PLUS MAKING TAMPERING IMPOSSIBLE.

NOTE:

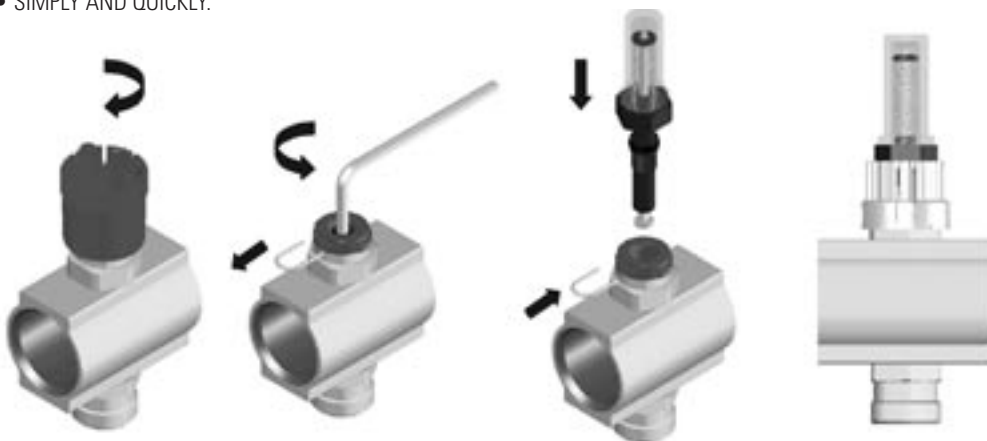
THE ISOLATOR ②, IS NOT USED FOR CALIBRATION ONLY FOR ISOLATION.



REPLACEMENT OF THE REGULATOR WITH A FLOW METER CARTRIDGE

THE NEW TRANSFORMABLE EMMETI LOCKSHIELD CAN BE COMBINED WITH A FLOW METER CARTRIDGE

- WHILE THE SYSTEM IS RUNNING;
- WITHOUT WATER LOSS;
- SIMPLY AND QUICKLY.

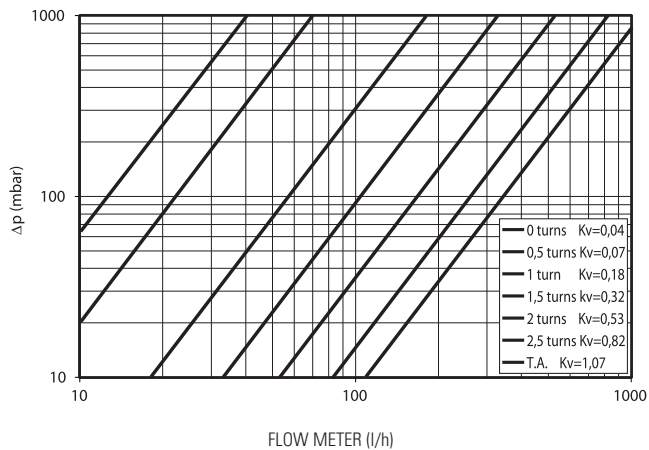


REPLACEMENT OF THE REGULATOR WITH A MEASUREMENT CARTRIDGE:

- CLOSE THE ISOLATOR ② USING CAP ①. REMOVE THE CLIP WITH A SCREWDRIVER.
- REMOVE THE REGULATOR ③ USING AN ALLEN KEY AND SCREWDRIVER.
- INSERT THE MEASUREMENT CARTRIDGE AND REPLACE THE CLIP. PLACE THE WHITE RING NUT OVER THE CARTRIDGE.

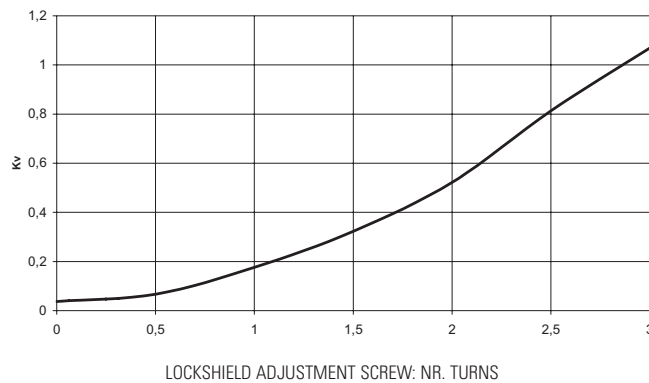
Pressure drop (valves*+lockshields)

*valve fully open



Kv values according to different openings

(valves*+lockshields)



NOTE:

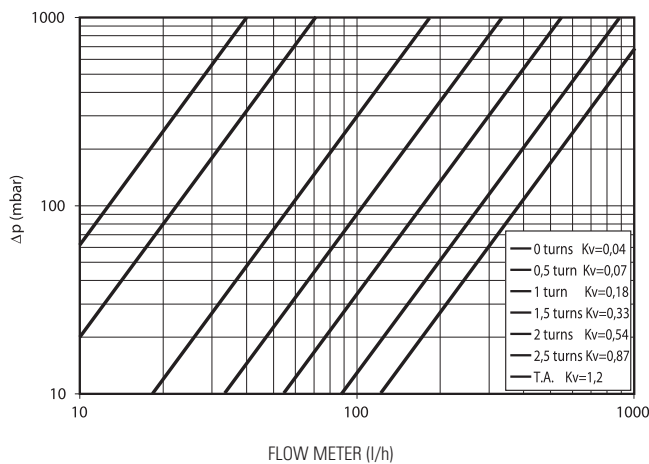
DEPENDING ON THE NUMBER OF TURNS THAT THE LOCKSHIELD ADJUSTMENT SCREW IS SET TO

$\Delta P = \Delta P \text{ ONE WAY} + \Delta P \text{ RETURN}$; TA: ALL OPEN.

THE ABOVE VALUES REFER TO WATER TEMPERATURE AT 15 °C.

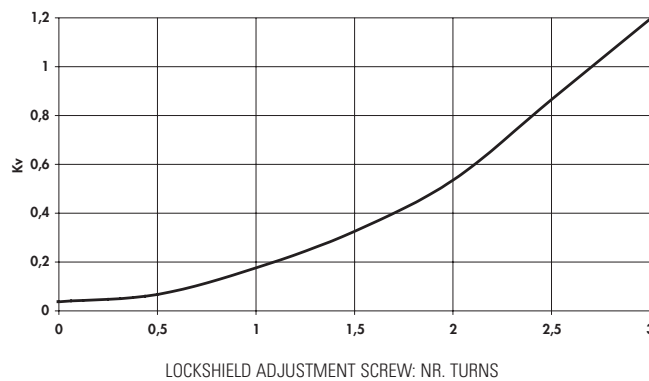
Pressure drop (valves*+lockshields)

*valve fully open



Kv values according to different openings

(valves*+lockshields)



CALCULATION METHODS

HOW TO CALCULATE THE ΔP PRESSURE DROP WITH A 300L/H Q WATER DELIVERY CAPACITY DETERMINED BY THE VALVE AND STOP VALVE, WITH A 5 TURNS OPENING:

1° METHOD: USE THE PRESSURE DROP DIAGRAM
 $Q = 300 \text{ L/H}$ $\Delta P = 55 \text{ MBAR}$

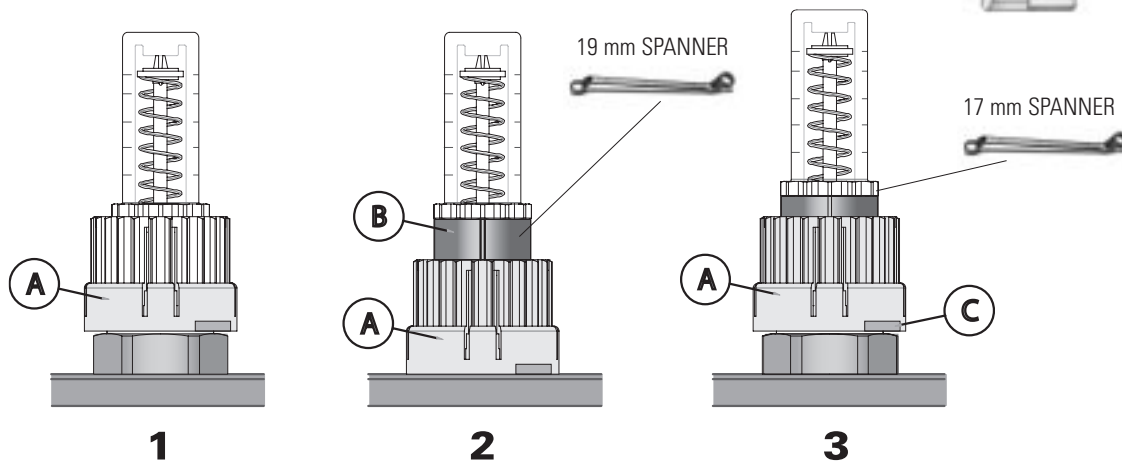
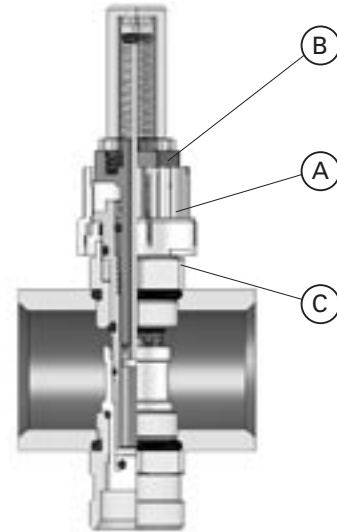
WHERE KV STANDS FOR Q DELIVERY CAPACITY IN M³/H CORRESPONDING TO ΔP EQUALLING 1 BAR: $KV = Q / \sqrt{\Delta P}$
 THE RELATIONSHIP BETWEEN (BAR) ΔP (M³/H) AND Q DELIVERY CAPACITY IS AS FOLLOWS: $\Delta P = Q^2 / KV^2$

2° METHOD: USE THE KV DIAGRAM $KV = 1,28$ $Q = 0,3 \text{ M}^3/\text{H}$
 $\Delta P = 0,3^2 / 1,28^2 = 0,055 \text{ BAR}$

LOCKSHIELDS WITH FLOW METER

FLOW REGULATION AND ISOLATION DEVICE WITH SET CALIBRATION MEMORY AND REGULATED FLOW DISPLAY SYSTEM. SIMPLE, DIRECT CALIBRATION BY MEANS OF INDICATOR THAT DISPLAYS THE CIRCUIT FLOW. THE SPECIAL DESIGN ALSO MAKES IT POSSIBLE TO CLEAN THE WINDOW OR REPLACE THE ENTIRE MEASUREMENT COMPONENT WITHOUT DRAINING THE SYSTEM.

- MEASUREMENT FIELD 0-4 l/min
- INDICATION ERROR $\pm 10\%$ OFFS CALE
- MAX WORKING PRESSURE 6 bar
- MAX WORKING TEMPERATURE 90 °C
- PRESSURE DROPS Kv from 0,15 (1l/min) to 0,55 (4 l/min)
- MAX PRESSURE DROP (OFF SCALE) KV=0,9



ADJUSTMENT

THE ADJUSTMENT OPERATION IS CARRIED OUT IN THE FOLLOWING WAY: FIRST RAISE THE WHITE RING NUT. THE ISOLATING FUNCTION IS SUPPLIED IN THE FULLY CLOSED POSITION. CARRY OUT THE FOLLOWING ACTIVITY UNDER FLOW CONDITIONS. NOTE, IT IS NOT NECESSARY TO USE TOOLS WHEN ADJUSTING, ONLY WHEN SERVICING.

1. TURN THE RING NUT A, ANTICLOCKWISE UNTIL THE LOCKSHIELD ISOLATOR IS COMPLETELY OPEN.
2. LOWER THE RING NUT A, AND CALIBRATE USING THE ADJUSTER B, UNTIL THE CORRECT FLOW IS REACHED (DIRECTLY INDICATED BY THE LOADING CAPACITY FLOW SCALE IN THE CLEAR WINDOW).
3. RAISE THE RING NUT A, UNTIL IT CLICKS, INDICATING THAT IT IS IN THE CORRECT POSITION.

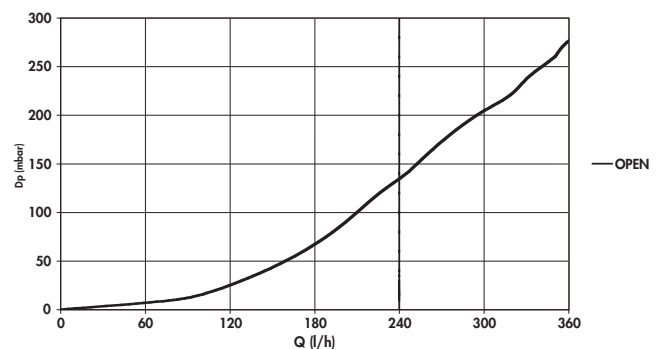
IT IS ALSO POSSIBLE TO SEAL THE RING NUT INTO THIS POSITION USING A LEAD SEAL AND THE HOLES IN THE VANES C TO FASTEN IT:

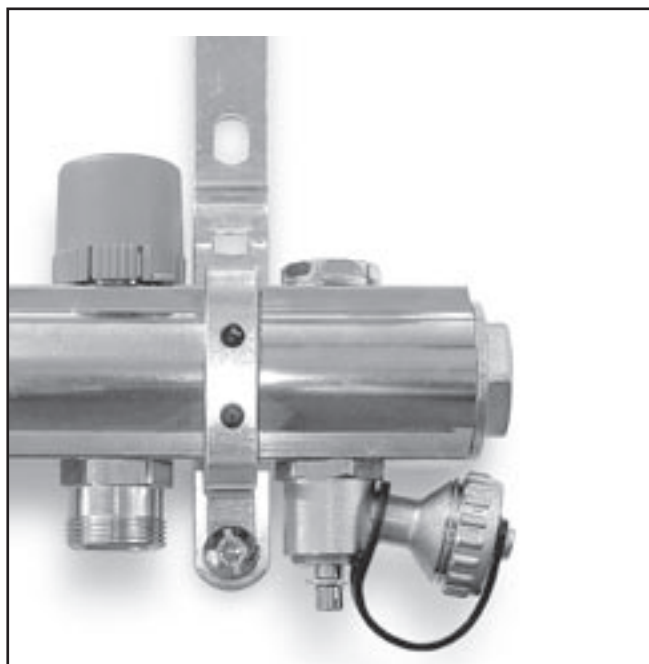
- DIRECTLY TO THE MANIFOLD, PREVENTING AND TAMPERING
- TO THE FLOW METER, MAKING IT POSSIBLE TO INTERCEPT THE FLOW WITHOUT CHANGING THE SET CALIBRATION FOR MAXIMUM OPENING.

CLEANING THE WINDOW

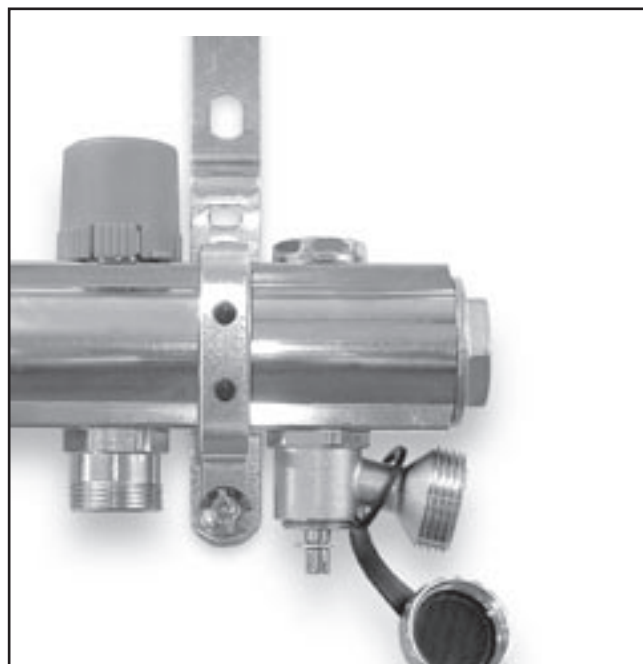
- TURN THE RING NUT, A, CLOCKWISE, UNTIL THE LOCKSHIELD ISOLATING FUNCTION IS COMPLETELY CLOSED
- REMOVE THE WINDOW BY SECURING ADJUSTER B, AND USING HAND PRESSURE OR A 17 mm RING SPANNER, REMOVE THE WINDOW GENTLY.
- CLEAN THE WINDOW AND SCREW IT BACK ON.
- TURN THE RING NUT, A, ANTI-CLOCKWISE, UNTIL THE LOCKSHIELD IS COMPLETELY OPEN

Pressure drop flow meter 4 l/min





ADJUSTABLE DRAINING/FILLING TAP IN A TYPICAL APPLICATION



OPEN THE TAP PLUG

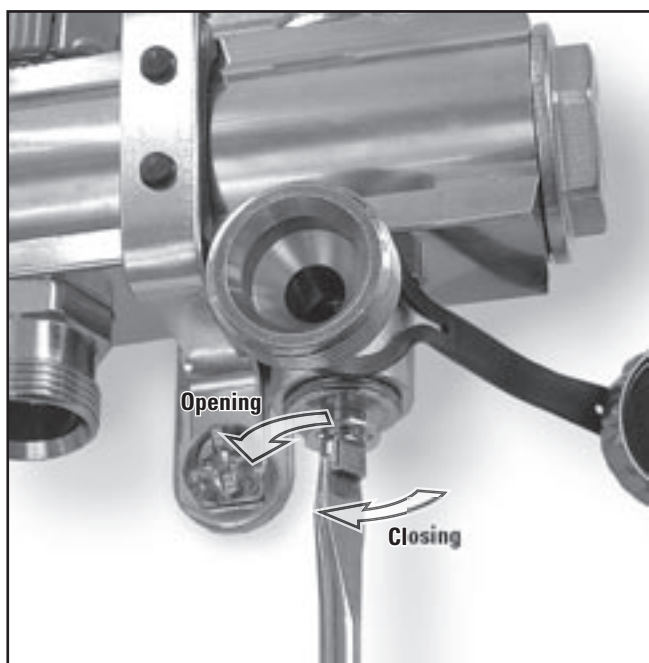


Figure 1

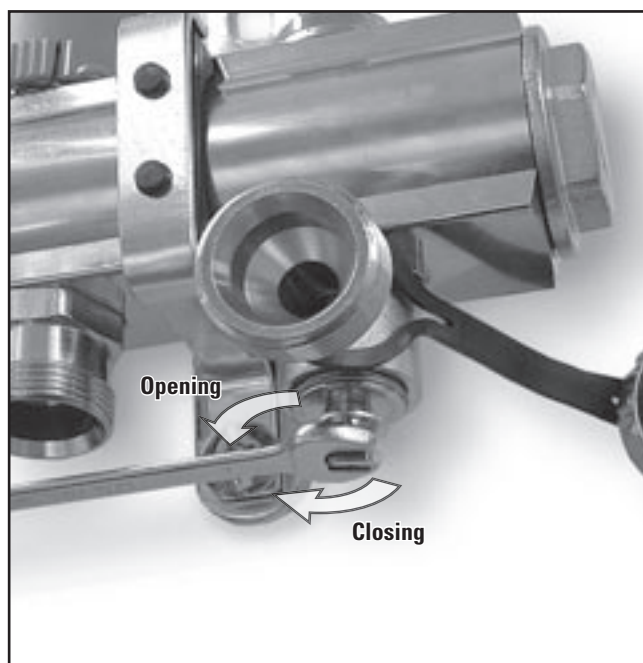


Figure 2

USE A FLATHEAD SCREWDRIVER (FIG. 1) OR A SIZE 5 MM. SPANNER (FIG. 2) TO OPEN OR CLOSE THE TAP
OPENING: TURN COUNTER-CLOCKWISE
CLOSING: TURN CLOCKWISE



Respect the environment!

For a correct disposal, the different materials must be divided and collected according to the regulations in force.

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