

CONTROL BALL VALVES
WITH EQUAL PERCENTAGE CHARACTERISTIC

2010

NEW

2 WAY

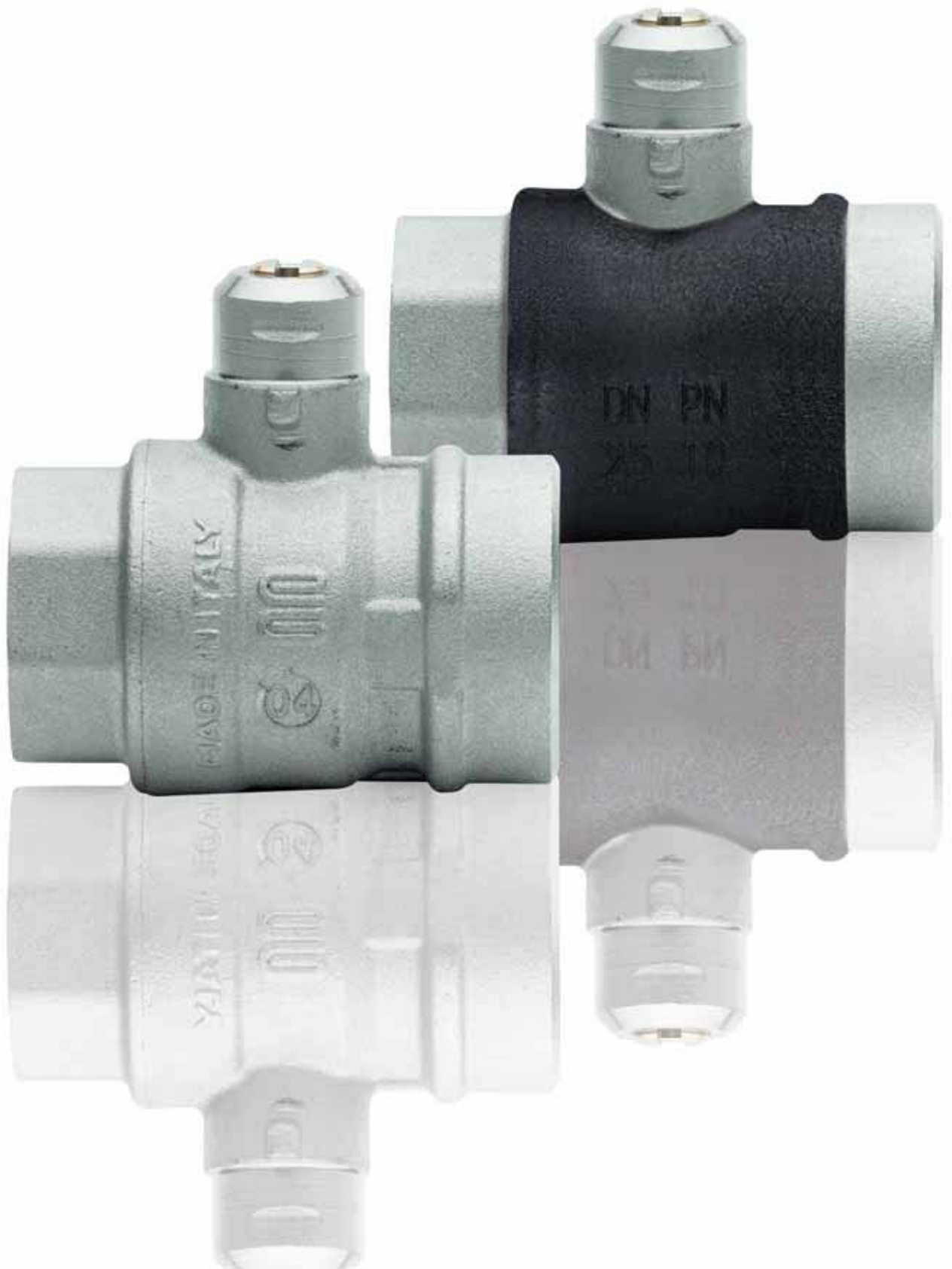


ENOLGAS



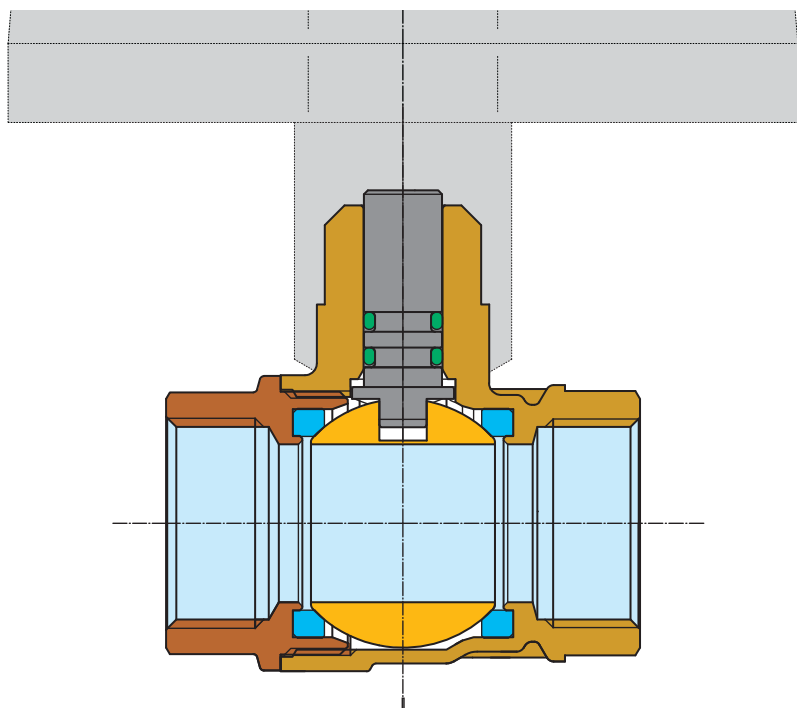
SWIFT•O•MATIC® 2-WAY








2-way valve quick mounting



SWIFT•O•MATIC® QM

Quick mounting full bore ball valve



| | |
|------------------------|---|
| BODY 1 |  |
| CW 617 N UNI EN 12165 | |
| END ADAPTER 2 |  |
| CW 617 N UNI EN 12165 | |
| BALL 3 |  |
| CW 614 N UNI EN 12164 | |
| BALL GASKETS 4 |  |
| P.T.F.E. | |
| STEM 5 |  |
| CW 614 N UNI EN 12164 | |
| THRUST WASHER 6 |  |
| P.T.F.E. | |
| STEM GASKET 7 |  |
| 2 ELASTOMER O-RINGS | |

TECHNICAL, DYNAMIC AND STRUCTURAL CHARACTERISTICS

CHARACTERISTICS AND NORMS

SWIFT•O•MATIC QUICK MOUNTING valves are made of brass, robust and specially designed to be easily and quickly automated with the actuators.

Full bore.

Brass: UNI EN 12165 CW 614 / CW 617 N

Threaded connections: NPT - BSPT - ISO 228

PED 97/23/CE - MODULE H

LIMITS OF USE

Temperature: -4F (-20°C) + 266F (130°C) (valve)

Temperature: -4F (-20°C) + 176F (80°C) (actuator)

MAIN USES

Hot, cold water and air

Hydrocarbons in general

Non-aggressive fluids

ADVANTAGES AND COMPETITIVENESS

The mechanical characteristics of **SWIFT•O•MATIC QUICK MOUNTING** provide the motorized valve with considerable advantages.

The quick and easy connection between the **SWIFT•O•MATIC QUICK MOUNTING** valve and the actuator is extremely stable.

The reduced operating torque allows a substantial reduction in the choice of the electrical or pneumatic drives.

COATED OPTIONS



| POLYMER PROPERTIES | UNITS | GLOBAL | TEST METHOD |
|-----------------------|--------------------|----------|-------------|
| DENSITY | Kg/m ³ | 500 | ISO 845 |
| TENSILE STRENGTH | Kg/cm ² | 45 | ISO 37 |
| ELONGATION AT BREAK | % | 100 | ISO 37 |
| TEAR STRENGTH | N/m | 11 | ISO 34 |
| HARDNESS AT 23°C | Shore A | 65-70 | ISO 868 |
| COMPRESSION SET (50%) | % | 10 | ISO 1855 |
| C.L.D. (40%) | Kpa | | ISO 3386 |
| TEMPERATURE LIMITS | °C | -20 +110 | - |

1. Tensile and Elongation core properties were tested also according to ISO 1798 Test Method

The coated valves has been designed for chilled water applications, easier installation and coating of the pipeline. So the most complicated part, between the valve and the actuator, is already coated with Semirigid Integral Skin foams with model density of 400-600 kg/m³ and a skin hardness of 60-77 Shore A.

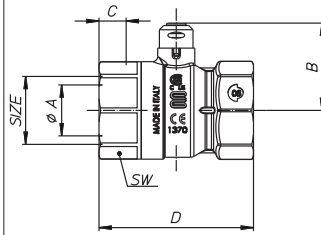
NOTE: To require this valve, please put a "P" instead of "N" in the articles number.



SWIFT•O•MATIC® QM

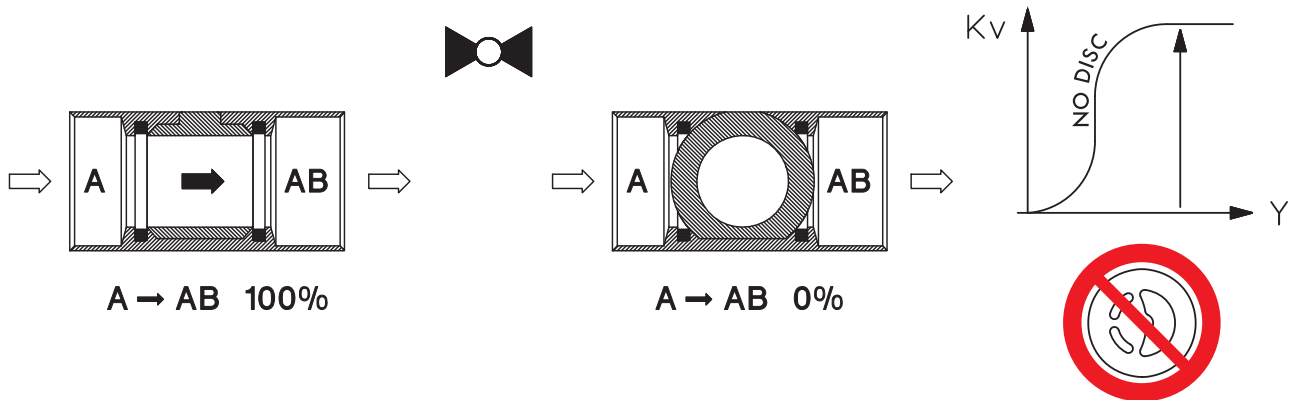
ON-OFF

Art. S.3041
SWIFT•O•MATIC QM



| Size | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
|---------|------|------|------|--------|--------|------|
| øA bore | 15 | 20 | 25 | 32 | 32 | 40 |
| B mm | 37 | 41 | 45 | 50 | 50 | 57,5 |
| C mm | 7,2 | 11 | 12,5 | 13,5 | 15,5 | 17,5 |
| D mm | 50 | 58,5 | 77 | 82 | 90 | 105 |
| SW mm | 26 | 31 | 38 | 47 | 54 | 66 |

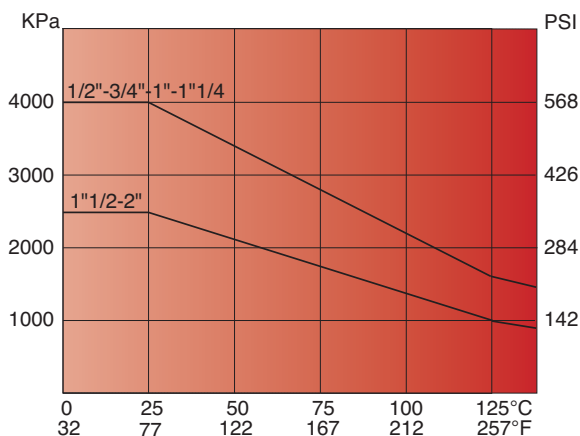
Ball valve, full bore, female/female, with quick mounting connection for actuator, nickel-plated.



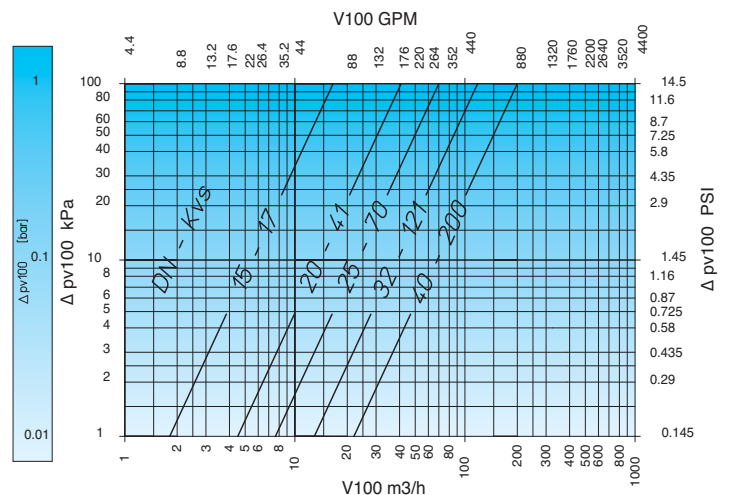
BALL VALVE FOR 2-POSITION CONTROL ON-OFF FULL BORE WITHOUT DISC

| Size | 1/2" | 3/4" | 1" | 1" 1/4" | 1" 1/2" | 2" |
|-------------------------|----------|----------|----------|----------|----------|----------|
| DN (mm) | 15 | 20 | 25 | 32 | 40 | 50 |
| Kvs (m ³ /h) | 17 | 41 | 70 | 121 | 121 | 200 |
| Article | S3041N04 | S3041N05 | S3041N06 | S3041N07 | S3041N08 | S3041N09 |

Pressure/temperature diagram
(test carried out with water)

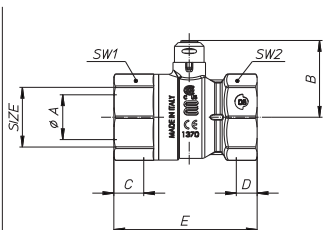


Loss of head diagram
(for water applications)



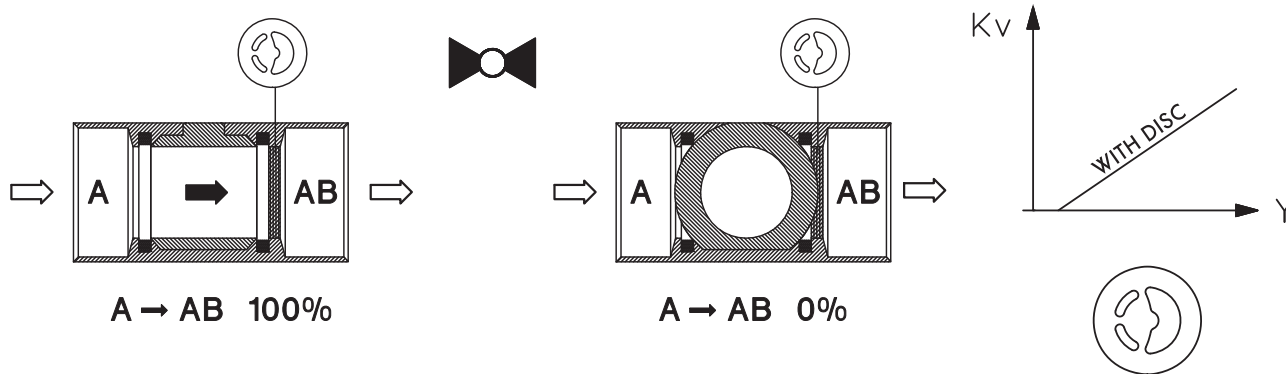


Art. S.3041
SWIFT•O•MATIC QM



Ball valve, full bore, female/female, with quick mounting connection for actuator, nickel-plated, with optimizer disc.

| Size | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
|---------|------|------|------|--------|--------|-------|
| ØA bore | 15 | 20 | 25 | 32 | 32 | 40 |
| B mm | 37 | 41 | 45 | 50 | 50 | 57,5 |
| C mm | 15 | 16,3 | 19,1 | 21,4 | 21,4 | 25,7 |
| D mm | 7,2 | 11 | 12,5 | 13,5 | 15,5 | 17,5 |
| E mm | 56 | 64,5 | 77 | 90,5 | 95 | 112,5 |
| SW1 mm | 26 | 31 | 38 | 47 | 54 | 66 |
| SW2 mm | 26 | 30 | 38 | 47 | 54 | 65 |



BALL VALVE FOR MODULATING CONTROL WITH DISC

| Size | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
|-------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| DN (mm) | 15 | 20 | 25 | 32 | 40 | 50 |
| Kvs (m ³ /h) | 3 | 6,7 | 9 | 16 | 20,4 | 31 |
| Article | S3041N35 + S1661L04 + S1665P04 | S3041N37 + S1661L05 + S1667P05 | S3041N40 + S1661L06 + S1668P06 | S3041N42 + S1661L07 + S1669P07 | S3041N44 + S1661L08 + S1671P08 | S3041N46 + S1661L09 + S1672P09 |

Operation

The parabolic shape of the flow optimizer orifice (figure 1) provides a slowly opening valve. Equal movements of the valve stem, at any point of the flow range, change the existing flow an equal percentage regardless of existing flow. The ball valve equal percentage flow characteristic (figure 2) mirrors the flow characteristic of a coil, resulting in linear heat transfer.

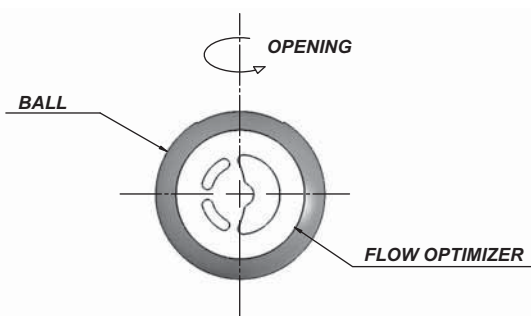


Fig. 1 Ball Valve Flow Optimizer

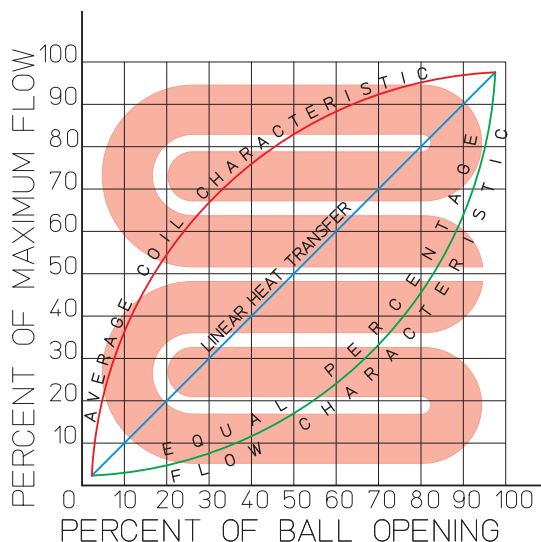
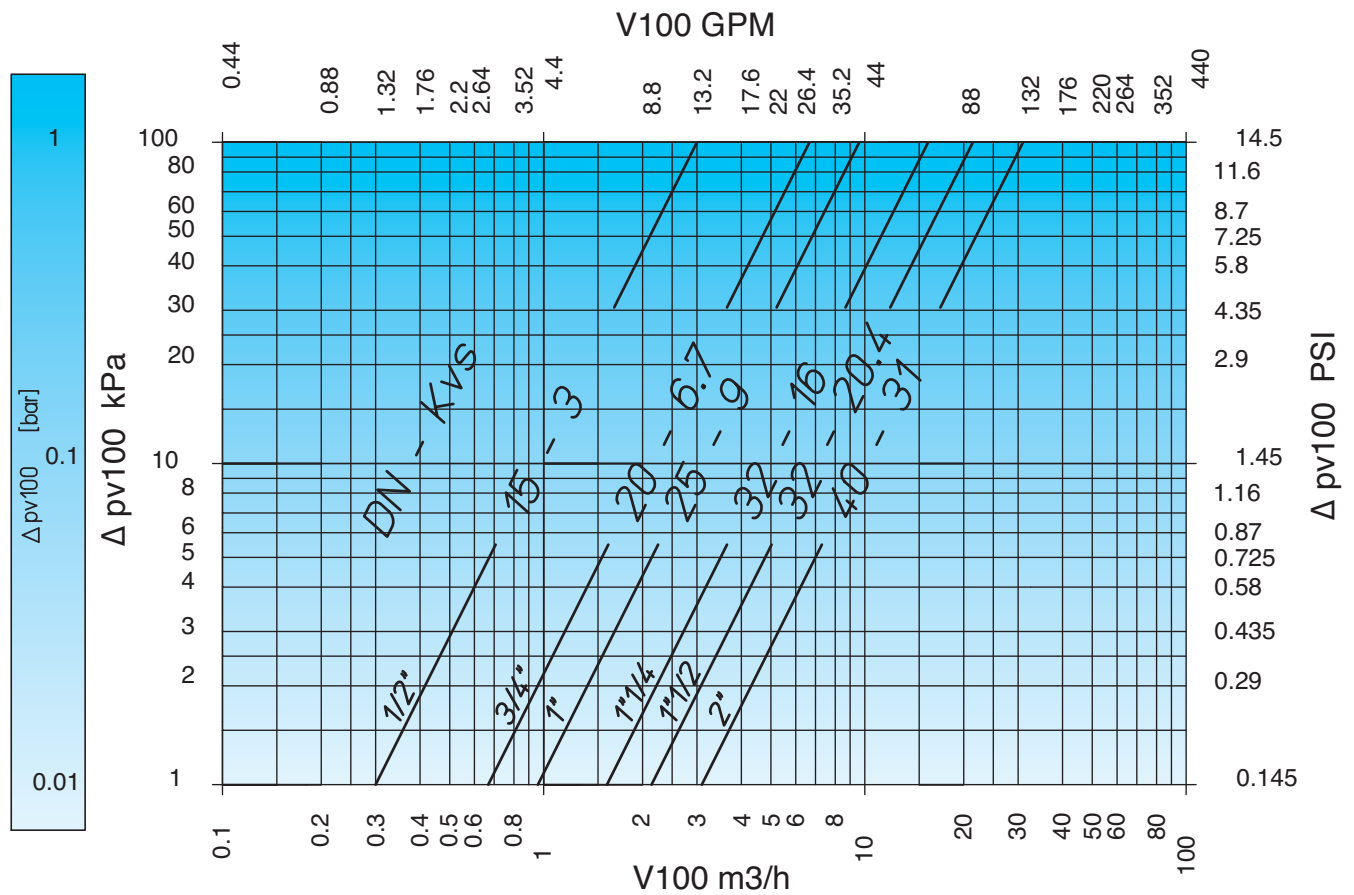


Fig. 2 Ball Valve Equal Percentage Flow Control





Loss of head diagram with optimizer disc



- Size from DN 15.....up to DN 50 mm (1/2".....2")
- Kvs 3.....to 292 m³/h
- Can be easily equipped with R2813.....S2815.....S2818.....S2912..... for 2-Way valve
- Manual assembly between valve and actuator quick mounting
- Suitable for small or medium size-sized heating, ventilating and air conditioning plants as a control or safety shut off valve
- Cooling water
- Chilled water
- Low temperature hot water
- Water with anti-freeze
- Range = -20 to + 130°C



2-WAY

TABLE 1

| VALVE PRODUCT NUMBER | FLOW OPTIMIZER DISC | SIZE | DN (mm) | TORQUE (Nm) | Kvs (m ³ /h) |
|--------------------------------------|---------------------|--------|---------|-------------|-------------------------|
| S3041N35 + S1661L04 + S1665P04 | * | 1/2" | 15 | 2,7 | 3 |
| S3041N04 | | | | | 17 |
| S3041N37 + S1661L05 + S1667P05 | * | 3/4" | 20 | 3,7 | 6,7 |
| S3041N05 | | | | | 41 |
| S3041N40 + S1661L06 + S1668P06 | * | 1" | 25 | 5,6 | 9 |
| S3041N06 | | | | | 70 |
| S3041N42 + S1661L07 + S1669P07 | * | 1" 1/4 | 32 | 6,6 | 16 |
| S3041N07 | | | | | 121 |
| S3041N44 + S1661L08 + S1671P08 | * | 1" 1/2 | 40 | 8 | 20,4 |
| S3041N08 | | | | | 121 |
| S3041N46 + S1661L09 + S1672P09 | * | 2" | 50 | 9,5 | 31 |
| S3041N09 | | | | | 200 |

2-WAY ACTUATOR

TABLE 2

| VALVE PRODUCT NUMBER | 230V 3 POINT CONNECTION NO MICRO RED COLOUR | 230V 3 POINT CONNECTION ON-OFF | 24V 3 POINT CONNECTION ON-OFF | 230V 2 POINT CONNECTION ON-OFF | 24V 2 POINT CONNECTION ON-OFF | 24 V 0-10 VDC MODULATING | 230 V 0-10 VDC MODULATING |
|--------------------------------------|---|--------------------------------|-------------------------------|--------------------------------|-------------------------------|--------------------------|---------------------------|
| S3041N35 + S1661L04 + S1665P04 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N04 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N37 + S1661L05 + S1667P05 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N05 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N40 + S1661L06 + S1668P06 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N06 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N42 + S1661L07 + S1669P07 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N07 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N44 + S1661L08 + S1671P08 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N08 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N46 + S1661L09 + S1672P09 | R2813P00 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |
| S3041N09 | S3041N07 | S2815P00 | S2816P00 | S2817P00 | S2818P00 | S2912P00 | AV. ON RQST |

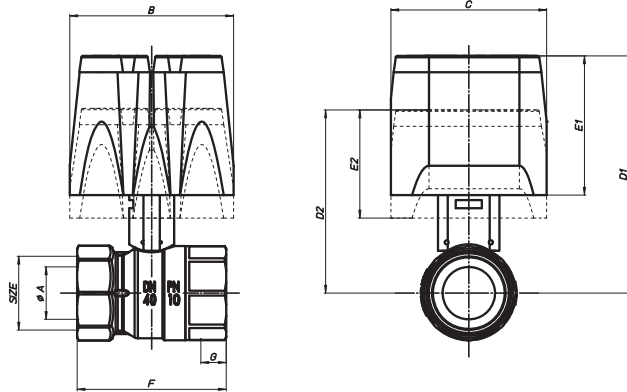
Note: Valve marked with an asterisk (*) have a flow optimizer disc for modulating applications.

Note: For coated valves specify the last letter with P instead of N or L on the valve product number.

Example: S1070P36.

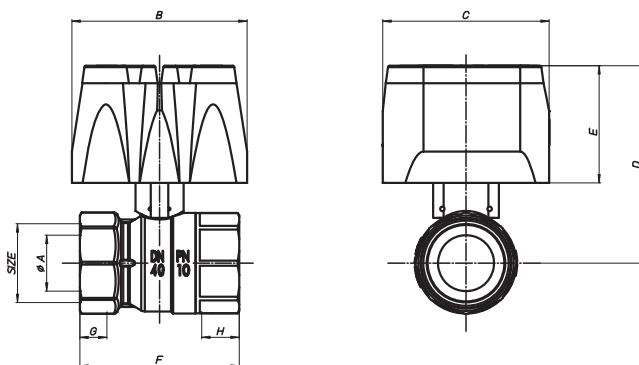


2-WAY ON-OFF



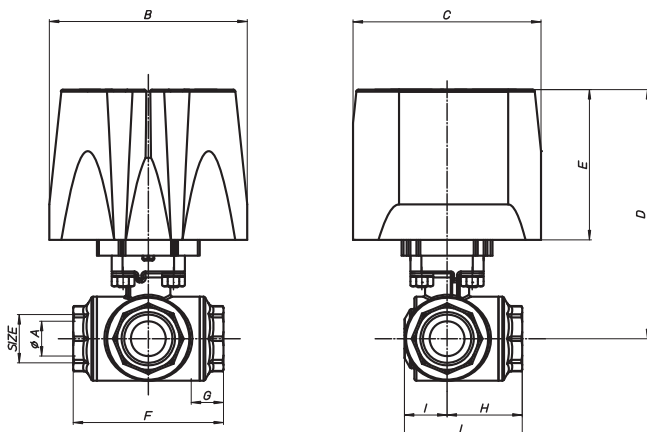
| Size | | ½" | ¾" | 1" | 1¼" | 1½" | 2" |
|---------|--|-----|------|------|------|------|------|
| øA bore | | 15 | 20 | 25 | 32 | 32 | 40 |
| B mm | | 100 | 100 | 100 | 100 | 100 | 100 |
| C mm | | 73 | 73 | 73 | 73 | 73 | 73 |
| D1 mm | | 122 | 126 | 130 | 135 | 135 | 142 |
| E1 mm | | 76 | 76 | 76 | 76 | 76 | 76 |
| D2 mm | | 110 | 114 | 118 | 123 | 123 | 130 |
| E2 mm | | 66 | 66 | 66 | 66 | 66 | 66 |
| F mm | | 50 | 58,5 | 71 | 82 | 90 | 105 |
| G mm | | 7,2 | 11 | 12,5 | 13,5 | 15,5 | 17,5 |

2-WAY MODULATING



| Size | | ½" | ¾" | 1" | 1¼" | 1½" | 2" |
|---------|--|-----|------|------|------|------|-------|
| øA bore | | 15 | 20 | 25 | 32 | 32 | 40 |
| B mm | | 100 | 100 | 100 | 100 | 100 | 100 |
| C mm | | 73 | 73 | 73 | 73 | 73 | 73 |
| D mm | | 110 | 114 | 118 | 123 | 123 | 130 |
| E mm | | 66 | 66 | 66 | 66 | 66 | 66 |
| F mm | | 57 | 64,5 | 77 | 90,5 | 95 | 112,5 |
| G mm | | 7,2 | 11 | 12,5 | 13,5 | 15,5 | 17,5 |
| H mm | | 15 | 16,3 | 19,1 | 21,4 | 21,4 | 25,7 |

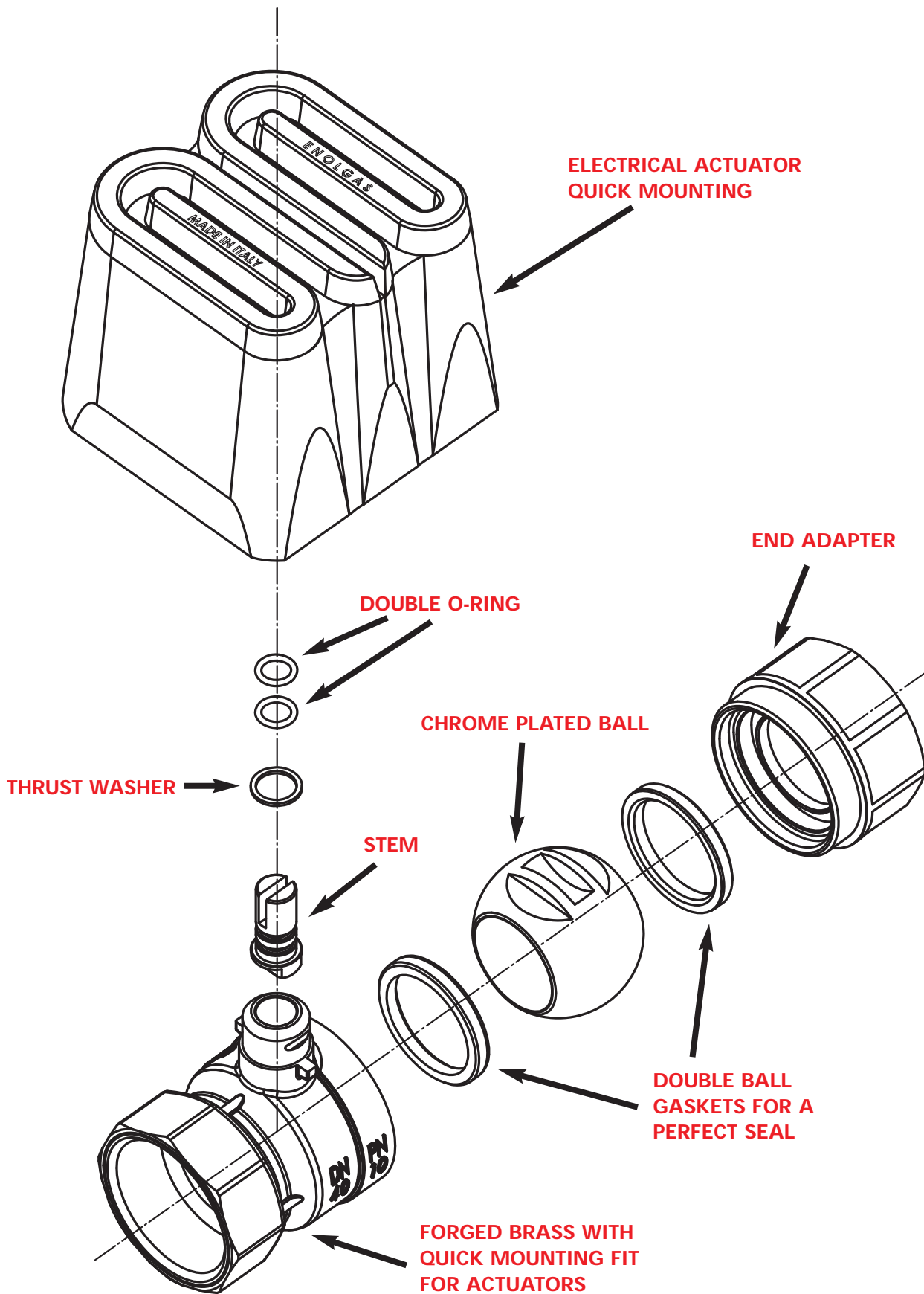
3-WAY ON-OFF and MODULATING

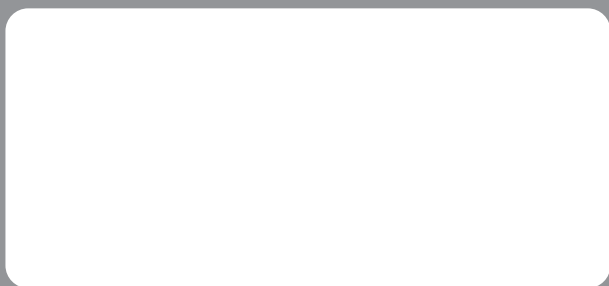


| Size | ¼" | ⅜" | ½" | ¾" | 1" | 1½" | 1¾" | 2" |
|---------|------|------|------|------|------|-----|-----|----|
| øA bore | 8 | 10 | 14,1 | 17,6 | 25 | - | - | - |
| B mm | 100 | 100 | 100 | 100 | 100 | - | - | - |
| C mm | 73 | 73 | 73 | 73 | 73 | - | - | - |
| D mm | 122 | 122 | 122 | 126 | 130 | - | - | - |
| E mm | 66 | 66 | 66 | 66 | 66 | - | - | - |
| F mm | 64,5 | 64,5 | 64,5 | 76 | 97 | - | - | - |
| G mm | 15 | 15 | 15 | 16,3 | 19,1 | - | - | - |
| H mm | 32,5 | 32,5 | 32,5 | 38 | 48,5 | - | - | - |
| I mm | 17 | 17 | 17 | 21,5 | 26 | - | - | - |
| L mm | 49,5 | 49,5 | 49,5 | 59,5 | 74,5 | - | - | - |

SWIFT•O•MATIC® QM

Assembly 2-way





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