



ITT

Dualrange® Control Valve

Size Range

1" - 6" (DN 25-150)

Pressure/Temperature

See page 15 of the General Engineering brochure.

Bonnet Material

Coated Ductile Iron (see page 13 of the Topworks brochure)

Actuation

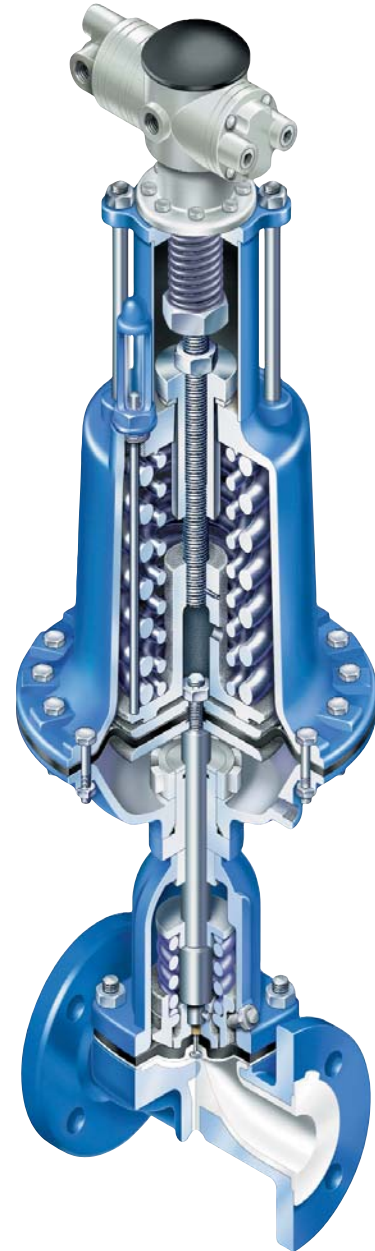
Dia-Flo pneumatic actuator is available in Direct, Reverse or Double Acting. Refer to the Dia-Flo Diaphragm Valves Selection Guide for dimensions and sizing.

Positioner

Conoflow and Moore positions are available. Refer to the Dia-Flo Diaphragm Product Selection Guide for dimensions and sizing.

Applications

- Where valves large enough to handle normal process flows cannot throttle low enough to control small amounts of flow required during start-up operations
- Where batching operations require a need for increased process control
- Where abrasives reduce valve life on throttling applications
- Where split-ranging has been necessary to provide rangeability not available in a single diaphragm valve



The Dualrange is a uniquely designed bonnet with double nested compressors for the use of throttling and controlling the flow of process fluids.

Pure-Flo®

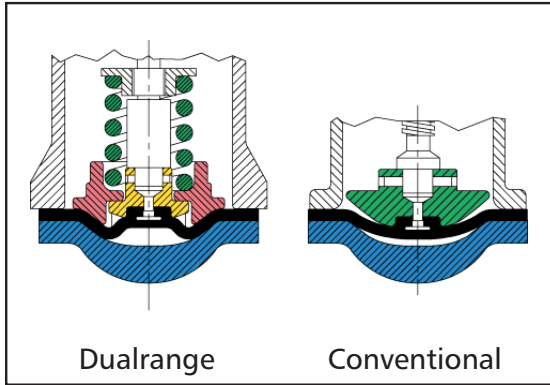
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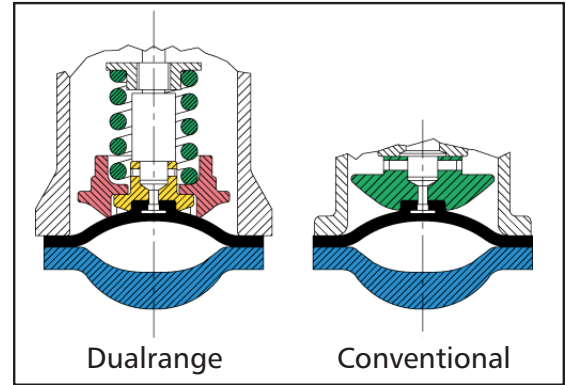
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Dualrange® Control Valve

Fine Throttling



Full Open



The excellent performance of the Dualrange is the result of a simple but effective innovation in diaphragm valve design: a two-piece compressor. This two-piece compressor assembly provides independent control over two areas of the diaphragm. Starting from a closed position, the first increment of stem travel allows only the inner compressor to move from the weir, resulting in a contoured opening in the center of the valve rather than slit across the entire weir. This improvement in the shape of the valve opening helps pre-

vent clogging and the dewatering of stock and keeps abrasion at a minimum. While springs hold the outer compressor firmly seated, the inner compressor may be positioned independently to provide accurate control over low flow rates. When the inner compressor is opened to its limit, the outer compressor begins to open. From this point on, both compressors move as a unit. When wide open, the Dualrange provides the same full flow capacities of ITT weir-type valves.

Flow Rates Recommended for throttling in valve open range of 20–80%

Valve Size	Estimated C_v and K_v for Dualrange® Bonnet with Pure-Flo® Diaphragm Valve													
Inch/DN	1.0"	25	1.5"	40	2.0"	50	2.5"	65	3.0"	80	4.0"	100	6.0"	150
% Open	C_v	K_v	C_v	K_v	C_v	K_v	C_v	K_v	C_v	K_v	C_v	K_v	C_v	K_v
10	1.0	0.2	2.0	0.5	4.0	1.0	8.0	1.9	14.0	3.4	24.0	5.8	65.0	15.6
20	3.2	0.8	8.0	1.9	9.0	2.2	18.0	4.3	27.0	6.5	47.0	11.3	125.0	30.0
30	5.2	1.2	14.0	3.4	14.0	3.4	28.0	6.7	42.0	10.1	70.0	16.8	255.0	61.2
40	7.4	1.8	20.0	4.8	19.0	4.6	52.0	12.5	68.0	16.3	130.0	31.2	365.0	87.6
50	9.4	2.3	28.0	6.7	33.0	7.9	68.0	16.3	97.0	23.3	185.0	44.4	445.0	106.8
60	13.0	3.1	35.0	8.4	50.0	12.0	80.0	19.2	115.0	27.6	245.0	58.8	515.0	123.6
70	15.0	3.6	42.0	10.1	62.0	14.9	85.0	20.4	135.0	32.4	300.0	72.0	550.0	132.0
80	17.0	4.1	44.0	10.6	69.0	16.6	89.0	21.4	150.0	36.0	345.0	82.8	570.0	136.8
90	18.0	4.3	46.0	11.0	70.0	16.8	92.0	22.1	165.0	39.6	375.0	90.0	590.0	141.6
100	18.6	4.5	48.0	11.5	70.0	16.8	95.0	22.8	180.0	43.2	400.0	96.0	600.0	144.0

Note: Values in this table are calculated and are not based on empirical data.

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