Northvale Korting Ltd

2400 Series Carbon Steel Control Valves

2400 Series Bossmatic control valves are intended for general utility service in pressure, flow and temperature control applications for the textile, pharmaceutical, semiconductor and industrial Heating, Ventilation & Air Conditioning markets.

This compact control valve series is positioned to take advantage of the trend toward industrial grade requirements in a range of applications spanning from general utility and special applications. Industrial grade control valves exhibit low hysteresis and deadband, good control characteristics, tight shutoff, rugged construction, high performance packing and easy maintainability that translates into reduced long-term operating costs.

FEATURES:

- Compact and lightweight design reduces installed piping costs.
- DIN end connections.
- Epoxy powder coated valve body and actuator with stainless steel fasteners for maximum corrosion resistance.
- High quality type 316 austenitic stainless steel trim materials.
- Superior dual stem and plug guiding provides increased stability during plug travel.
- Multi-spring field reversible actuator with reduced deadband permits direct operation from remote signal devices.
- Entire actuator and yoke can be removed from the valve assembly while maintaining packing integrity and providing user safety.

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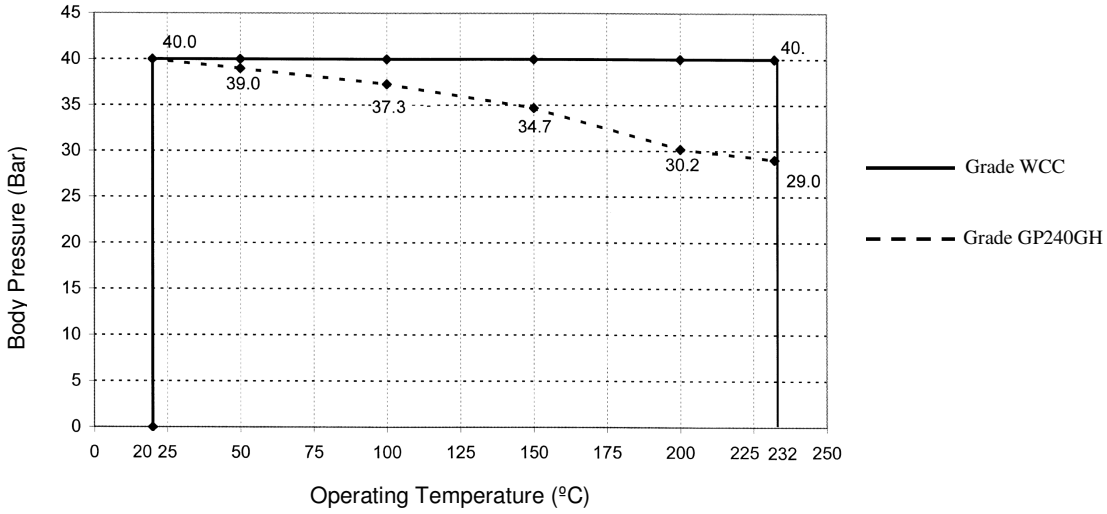
Table 1. Technical Specification.

	Metric	Imperial
Nominal Size	DN15, 20, 25, 40 & 50	½", ¾", 1", 1½" & 2"
Body Rating	PN40 to EN 1092-2	
Connections	PN10-PN40 Flanges to EN 1092-2	
Flange Finish	DIN500, 300 Ra circular lay	
Seat/Plug Sealing - Metal seat, Class IV	-195ºC to 232ºC	-320ºF to 450ºF
Bonnet	-73ºC to 232ºC	-100ºF to 450ºF
Packing - Spring loaded PTFE V-ring	-195ºC to 232ºC	-320ºF to 450ºF
Characteristic	Equal percentage	

Table 2. Actuator Specification.

	Metric	Imperial
Type	Multi-spring diaphragm (Single acting)	
Diaphragm Area	210 or 350 cm^2	32 or 54 in^2
Action	Push down to close	
Air Failure	Open or Closed (Field-reversible)	
Travel	12.7 mm or 19.1 mm	½" or ¾"
Ambient Temperature	-30ºC to 70ºC	-20ºF to 160ºF
Maximum Air Pressure	2.5 BarG	35 psig
Diaphragm	Nitrile elastomer, polyester fabric	
Spring Housing	Powder-coated steel with stainless steel fasteners	
Yoke	Powder-coated ductile iron.	

Figure 1. Body Pressure - Temperature Rating



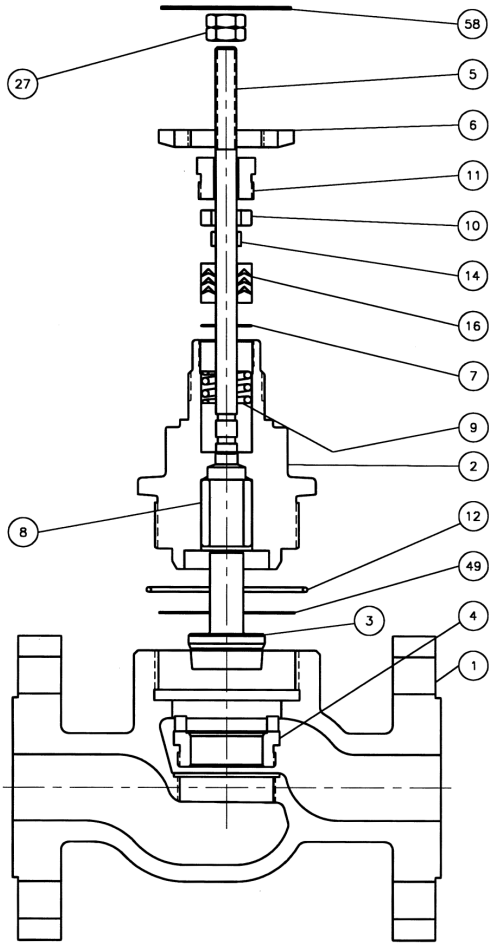


Table 3. Materials of Construction.

KEY NO.	DESCRIPTION	MATERIAL
1	Body	Dual Certified to ASTM A216 WCC & DIN Spec GP240GH / WN 1.0619 (cast steel)
2	Seat Ring	ASTM A276 S31600 / CF8M (standard)
4	Plug (Metal Seat) $C_v \leq 2.5$	ASTM A479 S21800 (Nitronic 60) (standard)
	Plug (Metal Seat) $C_v \geq 4.0$	ASTM A479 or ASTM A351 GR. CF8MS31600 (standard)
5	Stem	ASTM A276 S31600
6	Stem Guide	JLON 2000 (proprietary plastic)
7	Spring	ASTM A313 S30200
8	Bonnet	Dual Certified to ASTM A216 WCC & DIN Spec GP240GH / WN 1.0619 (cast steel)
8A	Bonnet Bushing	JLON 2000 (proprietary plastic)
9	Drive Nut (Yoke)	ASTM A194 GR.8 (304 stainless steel)
10	Packing Follower	ASTM A276 S31600
12	O-Ring	Viton
14	Packing Set	PTFE (standard)
16	Washer	ASTM A240 S31600
27	Locknuts	18-8 Stainless Steel
49	Body Gasket	Annealed Soft Copper (standard)
58	Travel Indicator	ASTM S240 S30400

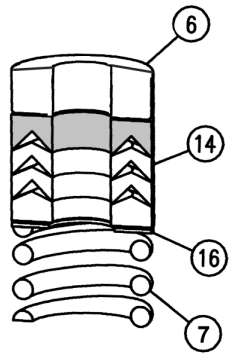


Table 4. Spring Loaded PTFE V-Ring Packing.

KEY NO.	DESCRIPTION	MATERIAL
9	Spring	ASTM A313 S30200
14	Packing Set	PTFE / carbon filled PTFE
16	Washer	ASTM A240 S31600

Table 5. Valve Operating Details.

Valve Size		Valve Travel		K_v	C_v	Air-fail-closed operation.			Air-fail-open operation.		
DN	in	mm	in			Bench Range (BarG)	Direct Signal Max ΔP (BarG)	With positioner Max ΔP (BarG)	Bench Range (BarG)	Direct Signal Max ΔP (BarG)	With positioner Max ΔP (BarG)
15	½	12.7	½	3.4	4.0	0.48-1.03	14.5	21.6	0.20-0.68	18.3	36.6
20	¾	12.7	½	9.32	10.8	0.48-1.03	14.5	21.6	0.20-0.68	18.3	36.6
25	1	12.7	½	11.7	13.6	0.48-1.03	8.8	13.1	0.20-0.68	11.1	20.8
40	1½	19.1	¾	28.3	32.9	0.68-0.96	10.9	14.6	–	–	–
50	2	19.1	¾	45.5	52.9	0.68-0.96	6.3	8.3	–	–	–

Notes.

Direct signal is 0.2–1.0 Bar (3–15psi) fed directly to the actuator.
Positioner is with 1.4 BarG main air supply.
Differential pressures (Max ΔP) are given for Class IV shut-off.

Figure 2. - K_v vs. Valve Lift

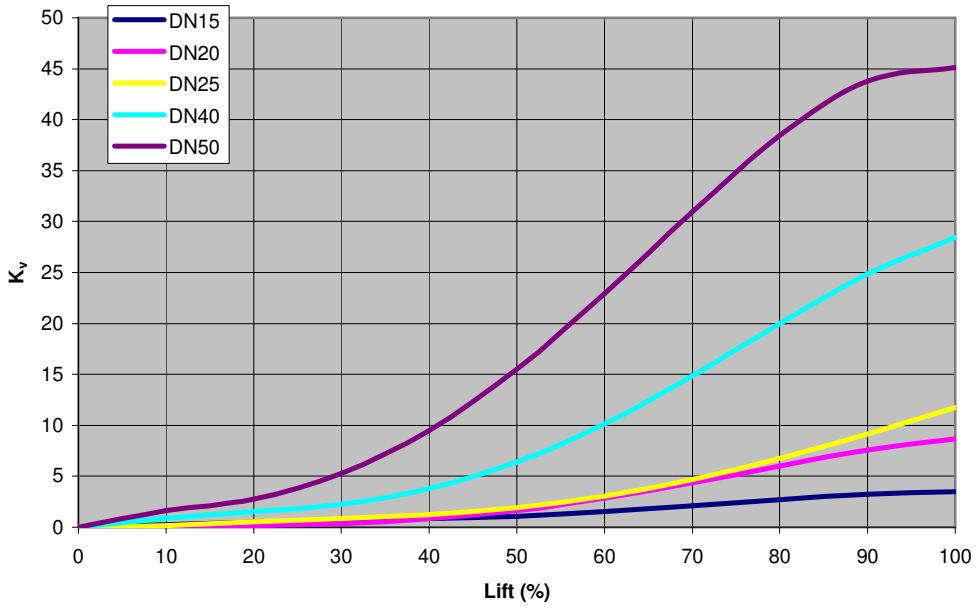
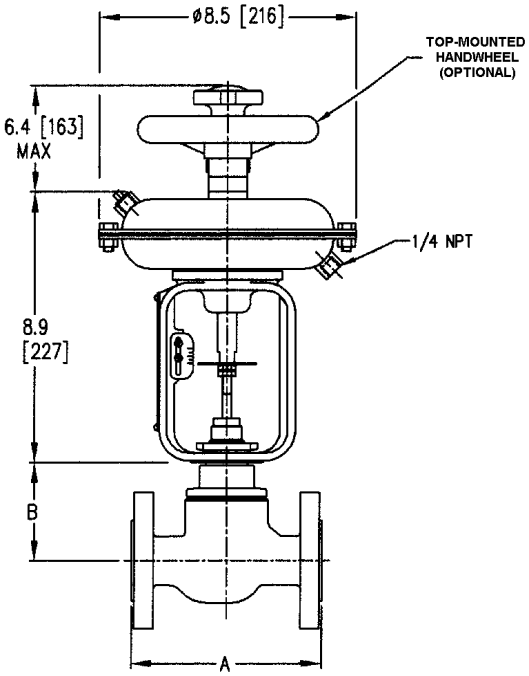
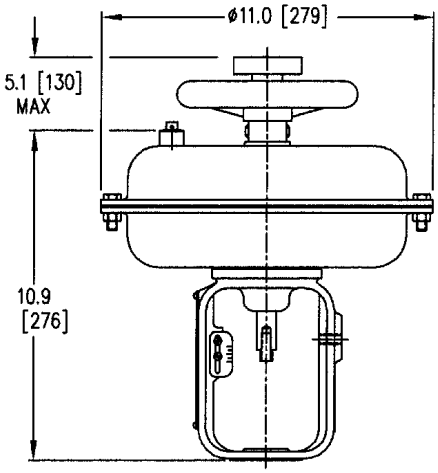


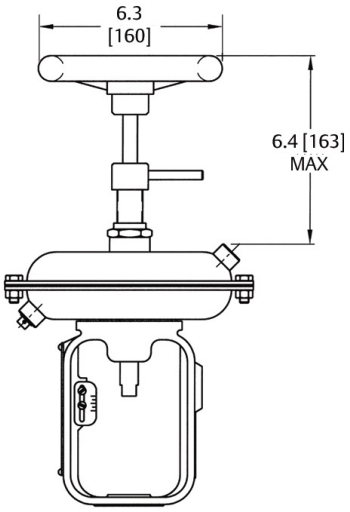
Figure 3. DIMENSIONS: ins [mm]



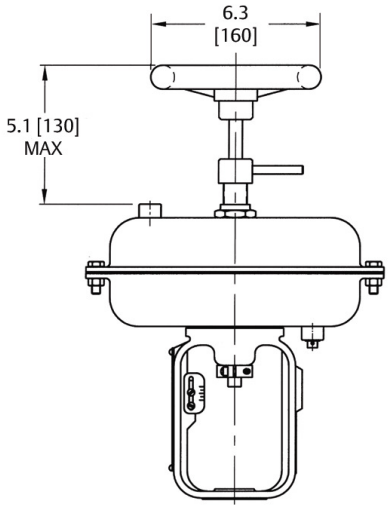
Valve & Type 32 Actuator
Air-fail-closed



Type 54 Actuator
Air-fail-closed



Type 32
Air-fail-open



Type 54
Air-fail-open

VALVE SIZE		ACTUATOR	DIMENSION 'A'		DIMENSION 'B'		TOTAL WEIGHT	
DN	in		mm	in	mm	in	kg	lb
15	½	Type 32	130	5.1	80	3.2	8.4	19
20	¾	Type 32	150	5.9	80	3.2	9.3	21
25	1	Type 32	160	6.3	83	3.3	10.9	24
40	1½	Type 54	200	7.9	99	3.9	21.3	47
50	2	Type 54	230	9.1	107	4.2	26.3	58

Note: Actuator removal requires 4½" [115mm] vertical clearance.