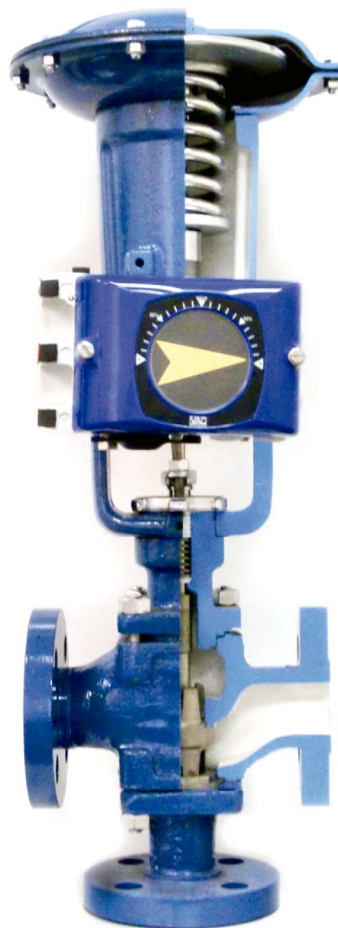


Bulletin
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NOR'EAST

CONTROLS, INC.

A DIVISION OF ALLAGASH INTERNATIONAL, INC.



THREE-WAY VALVES

SERIES 1600 MODEL 1601

SERIES 1900 MODEL 1901



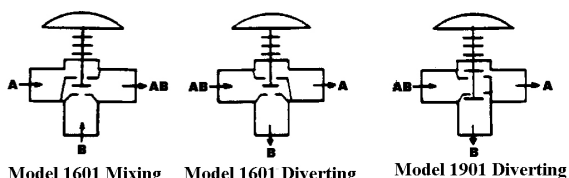
Previously manufactured by
Dezurik® and Honeywell®

Description

Models 1601 and 1901 three-way valves combine with pneumatic, spring-type actuators for heavy duty mixing or diverting service. Springless actuators are also available.

Flow

Model 1601 can be used for mixing or diverting service; model 1901 can be used only for diverting service. In mixing applications, flow is piped into ports A and B and emerges from port AB. In diverting applications, flow is piped into port AB and emerges from ports A and B.



Accessories

- ◆ Top-mounted handwheel (direct-acting only)
- ◆ Pneumatic and electro-pneumatic positioners
- ◆ Micro Switch precision switches
- ◆ Air sets
- ◆ Solenoids
- ◆ Transducers
- ◆ Air sets

Specifications

Actuator

Type	Pneumatic diaphragm-actuated, Type 01. Direct or reverse acting, spring or springless.
Construction	Pressed steel diaphragm case plates and heavy duty, cast iron yoke. Finished in blue corrosion-resistant enamel.
Diaphragm Material	Molded of Buna N with nylon insert. Ambient temperature range of -20° to 180°F (-29° to 82°C). Other materials available for higher or lower temperatures.
Spring	Totally enclosed. Range: 3 to 15 psi (21 to 100 kPa) standard. For other ranges, see actuator shutoff capabilities charts.
Air Pressure (air-to-diaphragm)	Normal: 18 or 35 psi (124 or 241 kPa) Maximum: 50 psi (344 kPa).
Air Connections	1/4" N.P.T.

Body

Type	Three-way, globe type, mixing or diverting.
Material	Cast iron, carbon steel or stainless steel. Other alloys available as options.
Ratings	Cast iron with threaded ends: 250 lb. ANSI B16.1 in 1, 1.25, 1.5, and 2" (25, 32, 40 and 50mm). Cast iron with flanged ends: 125 and 250 lb. ANSI B16.1 in all sizes. Carbon steel and stainless steel with threaded ends: 600 lb. ANSI B16.34 in 1, 1.25, 1.5, and 2" (25, 32, 40 and 50mm). Carbon steel and stainless steel with flanged ends: 150, 300 and 600 lb. ANSI B16.34 in all sizes.

Bonnet

Type	Plain: For process temperatures between 32° and 450°F (0° and 232°C). Die formed graphite packing can be used for temperatures up to 750°F (399°C). Extension Column: For process temperatures between -150° and 32°F (-101° and 0°C). Radiation Fin: For process temperatures from 450° to 1050°F (232° to 615°C). Not furnished with cast iron bodies. Bellows seal: Used when a positive stem seal is required, for process temperatures up to 750°F (399°C).
Packing	Bolted Box: Spring-loaded PTFE v-ring, graphite.

Specifications

Trim

Material	Stainless steel type 316 standard. Other materials available as options.
Plug	Skirt-guided, linear v-port. As flow through one port varies 0 to 100%, flow through other port varies 100% to 0%.

Action

Valve Action	Air-to-Close bottom port "B" is standard for model 1601. Air-to-Open bottom port "B" is standard for model 1901. Direct acting actuator is standard for both models.
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Note: Specifications subject to change without notice.

Ordering Information

- ✦ Valve model
- ✦ Body material
- ✦ Size
- ✦ End connections
- ✦ Bonnet
- ✦ Packing
- ✦ Trim material
- ✦ Control type (on-off or throttling)
- ✦ Accessories
- ✦ Action (air-to-close or air-to-open, "B" port)
- ✦ Pressure at each pipe connection

Flow Coefficients

Full Trim, Cv/Kv Values

Valve Size	Linear			
	Model 1601		Model 1901	
	Port A to AB	Port B to AB	Port AB to A	Port AB to B
1" 25mm	13 11	13 11	—	—
1.25" 32mm	16.5 14.3	17.5 15.1	—	—
1.5" 40mm	27 23	30 26	—	—
2" 50mm	41 35	45.6 39.4	—	—
2.5" 65mm	64 55	71.1 61.5	—	—
3" 80mm	92 80	102 88	80 69	77 67
4" 100mm	150 130	155 134	130 112	125 108
6" 150mm	320 277	331 286	270 234	260 225
8" 200mm	570 493	590 510	480 415	462 400
10" 250mm	910 787	942 815	750 649	722 625
12" 300mm	1310 1130	1360 1176	1080 934	1040 900

Note: Cv values=Flow in GPM of water at 1 psi pressure drop.

Kv Values=Flow in M³/hour of water at 100 kPa pressure drop.

Actuator Shutoff Capabilities

Spring-Type Actuator

Valve Size	Actuator Size	Travel	Air Supply psi kPa	Actuator Spring Range psi kPa	Model 1601			Model 1901				
					Mixing	Diverting		Diverting				
					Throttling or On-Off	Throttling	On-Off	Throttling or On-Off				
1" 25mm	9	9/16" 14mm	18 120	3-15 21-103	65 448	85 586	—	—				
				3-9 21-62	75 517	—	—	—				
				6-12 41-83	190 1310	—	—	—				
				8-14 55-96	110 758	—	—	—				
			35 240	3-15 21-103	—	—	135 930	—				
				7-19 48-131	250 1720	—	—	—				
				7-13 48-90	250 1720	—	—	—				
				8-14 55-96	295 2030	—	—	—				
			40 276	6-30 41-207	150 1030	190 1310	235 1620	—				
				6-30 41-207	205 1410	—	—	—				
				11-28.5 76-196	420 2890	—	—	—				
				1" 25mm	11	9/16" 14mm	18 120	3-15 21-103	140 965	165 1140	230 1580	—
5-12.5 34-86	345 2380	—	—					—				
35 240	10.5-18.5 72-127	600 4130	—				—	—				
	40 276	13.5-25.5 93-176	600 4130				—	—	—			
1.25" 32mm	9	3/4" 19mm	18 120	3-15 21-103	55 379	75 517	115 792	—				
				3-9 21-62	65 448	—	—	—				
				4.5-10.5 31-72	125 861	—	—	—				
				7-15 48-103	55 379	—	—	—				
			35 240	5-17.5* 34-121*	145 1000	—	—	—				
				7-15 48-108	230 1580	—	—	—				
				6-30 41-207	125 861	180 1240	210 1450	—				
				40 276	6-30 41-207	190 1310	—	—	—			
			7-31 48-214		230 1580	—	—	—				
			1.25" 32mm		11	3/4" 19mm	18 120	3-15 21-103	145 1000	145 1000	205 1410	—
								5-12.5 34-86	260 1790	—	—	—
				35 240			6-30 41-207	225 1550	290 2000	410 2820	—	
10.5-18.5 72-127	600 4130	—					—	—				
40 276	6-30 41-207	300 2070	—	—	—							
	13.5-25.5 93-176	600 4130	—	—	—							

* These are 3–15 psi (21–103 kPa) springs except the setting has been changed to increase the maximum pressure differential.

Actuator Shutoff Capabilities

Spring-Type Actuator

Valve Size	Actuator Size	Travel	Air Supply psi kPa	Actuator Spring Range psi kPa	Model 1601			Model 1901
					Mixing	Diverting		Diverting
					Throttling or On-Off	Throttling	On-Off	Throttling or On-Off
3" 80mm	13	1.25" 32mm	18 120	3-15 21-103	20 138	30 207	45 310	30 207
				3-9 21-62	25 172	—	—	45 310
				3.5-9.5 24-65	35 241	—	—	55 379
				7-14 48-96	35 241	—	—	50 345
				5-11 34-76	60 413	—	—	90 620
			35 240	8-21.5* 55-148*	110 758	—	—	160 1100
				6-30 41-207	—	60 413	90 620	—
				7-14 48-96	90 620	—	—	135 930
			40 276	6-26.5 41-183	75 517	—	—	115 792
				9-29.5 62-203	120 827	—	—	175 1210
3" 80mm	15	1.25" 32mm	18 120	3-15 21-103	—	50 345	75 517	—
				4.5-12 31-83	90 620	—	—	150 1030
			35 240	8.5-23.5 59-162	190 1310	—	—	290 2000
			40 276	10-25.5 69-176	230 1580	—	—	360 2480
4" 100mm	13	1.25" 32mm	18 120	3-15 21-103	9 62	15 103	25 172	15 103
				3-9 21-62	14 96	—	—	20 138
				3.5-9.5 24-65	18 124	—	—	30 207
				7-14 48-96	18 124	—	—	25 172
				5-11 34-76	30 207	—	—	50 345
			35 240	8-21.5 55-148	60 413	—	—	90 620
				7-14 48-96	50 345	—	—	75 517
				6-26.5 41-183	—	20 138	30 207	—
			40 276	6-26.5 41-183	40 276	—	—	65 448
				9-29.5 62-203	65 448	—	—	100 689
4" 100mm	15	1.25" 32mm	18 120	3-15 21-103	—	30 207	40 276	—
				4.5-12 31-83	45 310	—	—	90 620
			35 240	8.5-23.5 59-162	105 720	—	—	175 1210
			40 276	10-25.5 69-176	125 861	—	—	215 1480

* These are 3–15 psi (21–103 kPa) springs except the setting has been changed to increase the maximum pressure differential.

Actuator Shutoff Capabilities

Spring-Type Actuator

Valve Size	Actuator Size	Travel	Air Supply psi kPa	Actuator Spring Range psi kPa	Model 1601			Model 1901
					Mixing	Diverting		Diverting
					Throttling or On-Off	Throttling	On-Off	Throttling or On-Off
1.5" 40mm	9	3/4" 19mm	18 120	3-15 21-103	30 207	55 379	80 551	—
				3-9 21-62	40 276	—	—	—
				4.5-10.5 31-72	85 586	—	—	—
				7-15 48-103	30 207	—	—	—
			35 240	5-17.5* 34-121*	95 655	—	—	—
				7-15 48-103	155 1070	—	—	—
				6-30 41-207	85 586	125 861	150 1030	—
			40 276	6-30 41-207	125 861	—	—	—
				7-31 48-214	155 1070	—	—	—
				1.5" 40mm	11	18 120	3-15 21-103	—
5-12.5 34-86	175 1210	—	—				—	
35 240	6-30 41-207	—	200 1380			290 2000	—	
	10.5-18.5 72-127	415 2860	—			—	—	
40 276	13.5-25 93-172	530 3650	—			—	—	
	2" 50mm	11	18 120			3-15 21-103	35 241	50 345
35 240			7-19.5* 48-134*	140 965	—	—	—	
			6-30 41-207	—	105 720	130 896	—	
40 276			9-30 62-207	190 1310	—	—	—	
2" 50mm			13	35 240	3-15 21-103	60 413	80 551	115 792
	6-30 41-207	—			160 1100	230 1580	—	
	9-22* 62-152*	290 2000			—	—	—	
	11-28 76-193	300 2070			—	—	—	
	40 276	11-28 76-193		300 2070	—	—	—	
2.5" 65mm	11	35 240	3-15 21-103	20 138	30 207	45 310	—	
			7-19.5* 48-134*	85 586	—	—	—	
			6-30 41-207	—	70 482	85 586	—	
		40 276	9-30 62-207	115 792	—	—	—	
		2.5" 65mm	13	35 240	3-15 21-103	35 241	50 345	75 517
6-30 41-207	—				100 689	150 1030	—	
9-22* 62-152*	185 1270				—	—	—	
40 276	11-28 76-193			210 1450	—	—	—	

* These are 3–15 psi (21–103 kPa) springs except the setting has been changed to increase the maximum pressure differential.

Actuator Shutoff Capabilities

Spring-Type Actuator

Valve Size	Actuator Size	Travel	Air Supply psi kPa	Actuator Spring Range psi kPa	Model 1601			Model 1901
					Mixing	Diverting		Diverting
					Throttling or On-Off	Throttling	On-Off	Throttling or On-Off
6" 150mm	15	2" 50mm	18 120	3-15 21-103	3 21	10 69	14 96	8 55
				3-9 21-62	10 69	—	—	18 124
			35 240	3-15 21-103	10 69	—	—	18 124
				3-9 21-62	—	—	—	18 124
				6-30 41-207	—	20 138	30 207	—
			40 276	6-30 41-207	30 207	—	—	45 310
6" 150mm	18S	2.5" 64mm	18 120	3-15 21-103	—	15 103	25 172	—
				3.5-9.5 24-65	—	—	—	35 241
			35 240	6-30 41-207	—	30 207	50 345	—
				6.5-26 48-179	40 276	—	—	75 517
				9-29 62-200	55 379	—	—	100 689
			40 276	9-29 62-200	55 379	—	—	100 689
8" 200mm	18S	2.5" 64mm	18 120	3-15 21-103	4 28	7 48	10 69	7 48
				3-9 21-62	6 41	—	—	12 83
				3.5-9.5 24-65	8 55	—	—	15 103
			35 240	4-16* 28-110*	10 69	—	—	18 124
				6-30 41-207	—	15 103	20 138	—
			40 276	6-30 41-207	19 131	—	—	30 207
				7-31.5 48-217	22 152	—	—	35 241
				4-13 28-90	10 69	—	—	12 83
8" 200mm	18	2.5" 64mm	35 240	9-24.5 62-169	30 207	—	—	30 207
			40 276	10.5-26 72-179	38 262	—	—	40 276
			18 120	3-15 21-103	—	6 41	8 55	—
10" 250mm	18S	2.5" 64mm	35 240	4.5-17* 31-117*	6 41	—	—	12 83
				6-30 41-207	5 34	15 103	20 138	8 55
			40 276	7-31 48-214	13 90	—	—	23 158
			18 120	4.5-12 31-83	6 41	—	—	12 83
10" 250mm	18L	2.5" 64mm	35 240	9-20.5 62-141	18 124	—	—	32 220
			40 276	10-26 69-179	21 834	—	—	36 248
			35 240	5.5-18.5* 38-127*	5 34	—	—	9 62
12" 300mm	18L	3.5" 89mm	40 276	8-29 55-200	10 69	—	—	16 110

* These are 3–15 psi (21–103 kPa) springs except the setting has been changed to increase the maximum pressure differential.

Actuator Shutoff Capabilities

Springless Actuator

Valve Size	Actuator Size	Air Supply psi kPa	Model 1601 Mixing		Model 1901 Diverting	
			Throttling	On-Off	Throttling	On-Off
1" 25mm	9	18 124	460 3170	—	—	—
		35 241	—	600 4130	—	—
	11	18 124	600 4130	—	—	—
		35 241	—	600 4130	—	—
1.25" 32mm	9	18 124	290 2000	—	—	—
		35 241	—	600 4130	—	—
	11	18 124	480 3310	—	—	—
		35 241	—	600 4130	—	—
1.5" 40mm	9	18 124	195 1340	—	—	—
		35 241	—	420 2890	—	—
	11	18 124	330 2270	—	—	—
		35 241	—	600 4130	—	—
2" 50mm	11	18 124	175 1210	—	—	—
		35 241	—	365 2510	—	—
	13	18 124	255 1760	—	—	—
		35 241	—	545 3760	—	—
2.5" 65mm	11	18 124	110 758	—	—	—
		35 241	—	235 1620	—	—
	13	18 124	160 1100	—	—	—
		35 241	—	345 2380	—	—
3" 80mm	13	18 124	110 758	—	160 1100	—
		35 241	—	235 1620	—	335 2310
	15	18 124	160 1100	—	260 1790	—
		35 241	—	345 2380	—	460 3170

Actuator Shutoff Capabilities

Springless Actuator

Valve Size	Actuator Size	Air Supply psi kPa	Model 1601 Mixing		Model 1901 Diverting	
			Throttling	On-Off	Throttling	On-Off
4" 100mm	13	18 124	55 379	—	90 620	—
		35 241	—	125 861	—	195 1340
	15	18 124	90 620	—	150 1030	—
		35 241	—	195 1340	—	270 1860
6" 150mm	15	18 124	30 207	—	55 379	—
		35 241	—	75 517	—	125 861
	18S	18 124	50 345	—	90 620	—
		35 241	—	105 723	—	155 1070
8" 200mm	18S	18 124	25 172	—	45 310	—
		35 241	—	60 413	—	95 655
10" 250mm	18S	18 124	—	—	25 172	—
		35 241	—	—	—	50 345

Dimensions

Flanged Ends

Valve Size	A			B				C
	Iron 125 Steel 150	Iron 250 Steel 300	Steel 600	Plain Bonnet	Extension Column	Radiation Fin	Bellows Seal	
1" 25mm	<u>7.25</u> 184	<u>7.75</u> 197	<u>8.25</u> 210	<u>20.38</u> 518	<u>26.38</u> 670	<u>26.38</u> 670	<u>26.38</u> 670	<u>10.56</u> 268
1.25" 32mm	<u>7.88</u> 200	<u>8.38</u> 213	<u>9.0</u> 229	<u>21.0</u> 533	<u>25.63</u> 651	<u>25.63</u> 651	<u>29.38</u> 746	<u>10.56</u> 268
1.5" 40mm	<u>8.75</u> 222	<u>9.25</u> 235	<u>9.88</u> 251	<u>21.44</u> 545	<u>26.13</u> 664	<u>26.13</u> 664	<u>29.75</u> 756	<u>10.56</u> 268
2" 50mm	<u>10.0</u> 254	<u>10.5</u> 267	<u>11.25</u> 286	<u>23.31</u> 592	<u>31.38</u> 797	<u>28.38</u> 721	<u>31.38</u> 797	<u>12.81</u> 325
2.5" 65mm	<u>10.88</u> 276	<u>11.5</u> 292	<u>12.25</u> 311	<u>23.75</u> 603	<u>31.88</u> 810	<u>28.88</u> 734	<u>31.75</u> 806	<u>12.81</u> 325
3" 80mm	<u>11.75</u> 298	<u>12.5</u> 318	<u>13.25</u> 337	<u>28.25</u> 718	<u>32.5</u> 826	<u>32.5</u> 826	<u>40.0</u> 1016	<u>15.0</u> 381
4" 100mm	<u>13.88</u> 353	<u>14.5</u> 368	<u>15.5</u> 394	<u>29.25</u> 743	<u>33.25</u> 845	<u>33.25</u> 845	<u>41.5</u> 1054	<u>15.0</u> 381
6" 150mm	<u>17.75</u> 451	<u>18.63</u> 473	<u>20.0</u> 508	<u>38.25</u> 972	<u>44.0</u> 1118	<u>44.0</u> 1118	<u>60.75</u> 1543	<u>17.5</u> 445
8" 200mm	<u>21.38</u> 543	<u>22.38</u> 568	<u>24.0</u> 610	<u>45.25</u> 1149	<u>50.75</u> 1289	<u>50.75</u> 1289	—	<u>20.5</u> 521
10" 250mm	<u>22.0</u> 559	<u>23.0</u> 584	<u>31.0</u> 787	<u>46.5</u> 1181	<u>51.25</u> 1302	<u>51.25</u> 1302	—	<u>20.5</u> 521

Note: Dimensions shown are with size 9 actuator for 1, 1.25 and 1.5" (25, 32 and 40mm) valves; size 11 actuator for 2 and 2.5" (50 and 65mm) valves; size 13 for 3 and 4" (80 and 100mm) valves; size 15 for 6" (150mm) valves; and size 18S for 8 and 10" (200 and 250mm) valves.

Valve Size	D			E			
	Iron 125 Steel 150	Iron 250 Steel 300	Steel 600	Plain Bonnet	Extension Column	Radiation Fin	Bellows Seal
1" 25mm	<u>4.88</u> 124	<u>5.13</u> 130	<u>5.38</u> 137	<u>4.19</u> 106	<u>10.19</u> 259	<u>10.19</u> 259	<u>10.19</u> 259
1.25" 32mm	<u>5.25</u> 133	<u>5.5</u> 140	<u>5.81</u> 148	<u>4.88</u> 124	<u>9.5</u> 241	<u>9.5</u> 241	<u>13.13</u> 334
1.5" 40mm	<u>5.88</u> 149	<u>6.13</u> 156	<u>6.44</u> 164	<u>5.31</u> 135	<u>9.88</u> 251	<u>9.88</u> 251	<u>13.5</u> 343
2" 50mm	<u>6.75</u> 171	<u>7.0</u> 178	<u>7.44</u> 189	<u>5.81</u> 148	<u>13.88</u> 353	<u>10.88</u> 276	<u>13.75</u> 349
2.5" 65mm	<u>7.25</u> 184	<u>7.56</u> 192	<u>7.94</u> 202	<u>6.25</u> 159	<u>14.38</u> 365	<u>11.38</u> 289	<u>14.25</u> 362
3" 80mm	<u>7.56</u> 192	<u>7.94</u> 202	<u>8.94</u> 227	<u>8.13</u> 207	<u>12.38</u> 314	<u>12.38</u> 314	<u>19.88</u> 505
4" 100mm	<u>9.38</u> 238	<u>9.69</u> 246	<u>10.19</u> 259	<u>9.13</u> 232	<u>13.13</u> 334	<u>13.13</u> 334	<u>21.38</u> 543
6" 150mm	<u>11.56</u> 294	<u>12.0</u> 305	<u>12.69</u> 322	<u>12.88</u> 327	<u>18.63</u> 473	<u>18.63</u> 473	<u>35.38</u> 899
8" 200mm	<u>14.13</u> 359	<u>14.63</u> 372	<u>15.44</u> 392	<u>16.38</u> 416	<u>21.88</u> 556	<u>21.88</u> 556	—
10" 250mm	<u>17.13</u> 435	<u>17.81</u> 452	<u>19.69</u> 500	—	—	—	—

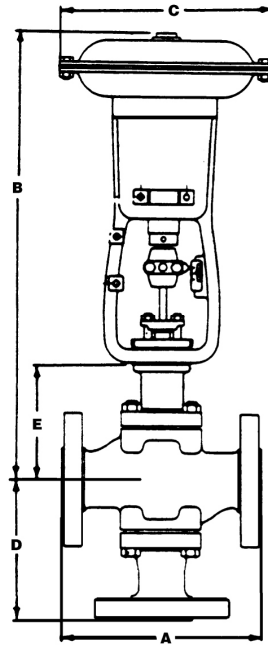
Inch
Millimeter

Dimensions

Threaded Ends

Valve Size	A	B				C	D	E			
	Iron 250 Steel 600	Plain Bonnet	Extension Column	Radiation Fin	Bellows Seal		Iron 250 Steel 600	Plain Bonnet	Extension Column	Radiation Fin	Bellows Seal
1" 25mm	6.0 152	20.38 518	26.38 670	26.38 670	26.38 670	10.56 268	4.25 108	4.19 106	10.19 259	10.19 259	10.19 259
1.25" 32mm	6.0 152	21.0 533	25.63 651	25.63 651	29.38 746	10.56 268	4.38 111	4.88 124	9.5 241	9.5 241	13.13 334
1.5" 40mm	7.5 191	21.44 545	26.13 664	26.13 664	29.75 756	10.56 268	5.25 133	5.31 135	9.88 251	9.88 251	13.5 343
2" 50mm	9.0 229	23.31 592	31.38 797	28.38 721	31.38 797	12.81 325	5.75 146	5.81 148	13.88 353	10.88 276	13.75 349

Inch
Millimeter



Approximate Shipping Weight

Valve Size		1" 25mm	1.25" 32mm	1.5" 40mm	2" 50mm	2.5" 65mm	3" 80mm	4" 100mm	6" 150mm	8" 200mm	10" 250mm	12" 300mm
Weight	lbs	110	120	145	195	250	330	390	740	1000	1375	1710
	kg	50	54	66	88	113	149	177	335	453	623	775

Guarantee

Products, auxiliaries and parts thereof, of Nor'East Controls' manufacture, are guaranteed for a period of one year from the date of shipment against defective workmanship and material only, when properly installed, operated and serviced in accordance with Nor'East Controls' recommendations. Replacement for items of Nor'East Controls' manufacture will be made free of charge if proved to be defective within such time. No claim for special or consequential damages, transportation, or labor shall be allowed. Purchaser shall be solely responsible for determining suitability for use and in no event shall Nor'East Controls be liable in this respect. Equipment or parts manufactured by others but furnished by Nor'East Controls will be repaired or replaced, only to the extent provided in the original manufacturer's warranty to Nor'East Controls. Nor'East Controls does not guarantee resistance to corrosion, erosion, abrasion or other sources of failure, nor does Nor'East Controls guarantee a minimum length of service. Failure of the purchaser to give prompt written notice of any alleged defect under this guarantee forthwith upon its discovery, or use and possession thereof after an attempt has been made and completed by someone other than Nor'East Controls or an authorized representative to remedy defects therein, or failure to return products or parts for replacement as herein provided, of failure to install, operate, and maintain said products or parts according to instructions provided by Nor'East Controls, of failure to pay the entire contract price when due, shall be a waiver of all rights under these representations.

The foregoing guarantee shall be null and void, if, after shipment from our factory, the item is modified in any way or component of another manufacturer, such as but not limited to; an actuator is attached to the item by valves & controls other than a Nor'East Controls Factory Service Personnel. All orders accepted shall be deemed accepted subject to this guarantee, which shall be exclusive of any other previous guarantee, and this shall be the only effective guarantee or warranty binding on Nor'East Controls, anything to the contrary contained in the purchase order, or represented by any agent or employee of Nor'East Controls, in writing or otherwise, notwithstanding, including but not limited to implied warranties.

THE FOREGOING OBLIGATIONS ARE IN LIEU OF ALL OTHER OBLIGATIONS AND LIABILITIES INCLUDING WARRANTIES OF FITNESS OR MERCHANTABILITY OR OTHERWISE, EXPRESSED OR IMPLIED IN FACT OR BY LAW, AND STATE NOR'EAST CONTROLS AND EXCLUSIVE LIABILITY AND PURCHASER'S EXCLUSIVE REMEDY FOR ANY CLAIM IN CONNECTION WITH THIS SALE OR FURNISHING OF SERVICES, GOODS, OR PARTS, THEIR OWN DESIGN, SUITABILITY FOR USE, INSTALLATION OR OPERATION.

Limitation of Liability

In no event shall Nor'East Controls be liable for any direct, indirect, special or consequential damages whatsoever, and Nor'East Controls' liability, under no circumstances, will exceed the contract price for the goods and/or services for which liability is claimed. Any action for breach of contract must be commenced within 1 year after the cause of the action has occurred.

1000 Riverside Street, Portland, Maine 04103 207-781-8831 Fax: 207-781-8830

Sales and Service

Nor' East Controls representatives are located in major cities throughout the world.
For the name of the representative nearest you, contact:

Web site:www.allagashinternational.com **E-Mail:**sales@allagashinternational.com

Nor' East reserves the right to incorporate our latest design and material changes without notice or obligation. Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing by Nor' East Controls. Certified drawings are available upon request.