

Bulletin
516.01-3NE
January 2016

NOR'EAST™

CONTROLS



THREE-WAY VALVES

SERIES 1600 MODEL 1601
SERIES 1900 MODEL 1901



Previously manufactured by
Dezurik® and Honeywell®

Description:

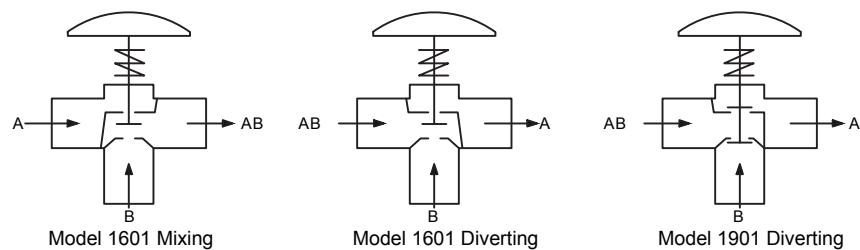
Models 1601 and 1901 three-way valves combine with pneumatic, spring-type actuators for heavy duty mixing or diverting service.

Accessories:

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

Flow:

Model 1601 can be used for mixing and 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.



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 160°F (-29° to 71°C). Other materials available for higher or lower temperatures.
Spring	Totally enclosed. Ranges: 3 to 15 psig (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" NPT.

Body

Type	Three-way, globe type, mixing and 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 B16.11 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.

SPECIFICATIONS

Bonnet

Type	Plain: For process temperatures between 32° to 450°F (0° to 232°C). Die formed graphite packing can be used for temperatures up to 750°F (399°C). Extension Column: 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.

Trim

Material	Stainless steel type 316 standard. Other materials 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-Close bottom port “B” is standard for model 1901. Direct acting actuator is standard for both models.
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ORDERING DATA

Please Specify:

- 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
<u>1"</u> 25mm	<u>13</u> 11	<u>13</u> 11	-	-
<u>1.25"</u> 32mm	<u>16.5</u> 14.3	<u>17.5</u> 15.1	-	-
<u>1.5"</u> 40mm	<u>27</u> 23	<u>30</u> 26	-	-
<u>2"</u> 50mm	<u>41</u> 35	<u>45.6</u> 39.4	-	-
<u>2.5"</u> 65mm	<u>64</u> 55	<u>71.1</u> 61.5	-	-
<u>3"</u> 80mm	<u>92</u> 80	<u>102</u> 88	<u>80</u> 69	<u>77</u> 67
<u>4"</u> 100mm	<u>150</u> 130	<u>155</u> 134	<u>130</u> 112	<u>125</u> 108
<u>6"</u> 150mm	<u>320</u> 277	<u>331</u> 286	<u>270</u> 234	<u>260</u> 225
<u>8"</u> 200mm	<u>570</u> 493	<u>590</u> 510	<u>480</u> 415	<u>562</u> 400
<u>10"</u> 250mm	<u>910</u> 787	<u>942</u> 815	<u>750</u> 649	<u>722</u> 625
<u>12"</u> 300mm	<u>1310</u> 1130	<u>1360</u> 1176	<u>1080</u> 934	<u>1040</u> 900

Notes: Cv values = Flow in GPM of water at 1 psi pressure drop.
Kv vales = Flow in M³/hour of water at 100 kPa pressure drop.

ACTUATOR SHUT-OFF 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	—	—	—
				6-30 41-207	150 1030	190 1310	235 1620	—
			40 276	6-30 41-207	205 1410	—	—	—
				11-28.5 76-196	420 2890	—	—	—
				3-15 21-103	140 965	165 1140	230 1580	—
				5-12.5 34-86	345 2380	—	—	—
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	—	—	—
			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	—	—	—
1.25" 32mm	11	3/4" 19mm	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 SHUT-OFF 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
				8-21.5* 55-148*	110 758	—	—	160 1100
			35 240	6-30 41-207	—	60 413	90 620	—
				7-14 48-96	90 620	—	—	135 930
				6-26.5 41-183	75 517	—	—	115 792
			40 276	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
				8-21.5 55-148	60 413	—	—	90 620
			35 240	7-14 48-96	50 345	—	—	75 517
				6-26.5 41-183	—	20 138	30 207	—
				6-26.5 41-183	40 276	—	—	65 448
			40 276	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

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ACTUATOR SHUT-OFF 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	—
				6-30 41-207	125 861	—	—	—
			40 276	7-31 48-214	155 1070	—	—	—
				3-15 21-103	—	100 689	145 1000	—
				5-12.5 34-86	175 1210	—	—	—
				6-30 41-207	—	200 1380	290 2000	—
2" 50mm	11	1" 25mm	18 120	3-15 21-103	35 241	50 345	70 482	—
				7-19.5* 48-134*	140 965	—	—	—
				6-30 41-207	—	105 720	130 896	—
				9-30 62-207	190 1310	—	—	—
			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	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	—
				9-30 62-207	115 792	—	—	—
2.5" 65mm	13	1" 25mm	18 120	3-15 21-103	35 241	50 345	75 517	—
				6-30 41-207	—	100 689	150 1030	—
				9-22* 62-152*	185 1270	—	—	—
				11-28 76-193	210 1450	—	—	—
			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	—	—	—
				11-28 76-193	210 1450	—	—	—
			40 276	3-15 21-103	35 241	50 345	75 517	—
				6-30 41-207	—	100 689	150 1030	—
				9-22* 62-152*	185 1270	—	—	—
				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 SHUT-OFF 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
			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
8" 200mm	18	2.5" 64mm	18 120	4-13 28-90	10 69	—	—	12 83
			35 240	9-24.5 62-169	30 207	—	—	30 207
			40 276	10.5-26 72-179	38 262	—	—	40 276
10" 250mm	18S	2.5" 64mm	18 120	3-15 21-103	—	6 41	8 55	—
			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
10" 250mm	18L	2.5" 64mm	18 120	4.5-12 31-83	6 41	—	—	12 83
			35 240	9-20.5 62-141	18 124	—	—	32 220
			40 276	10-26 69-179	21 834	—	—	36 248
12" 300mm	18L	3.5" 89mm	35 240	5.5-18.5* 38-127*	5 34	—	—	9 62
			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.

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

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

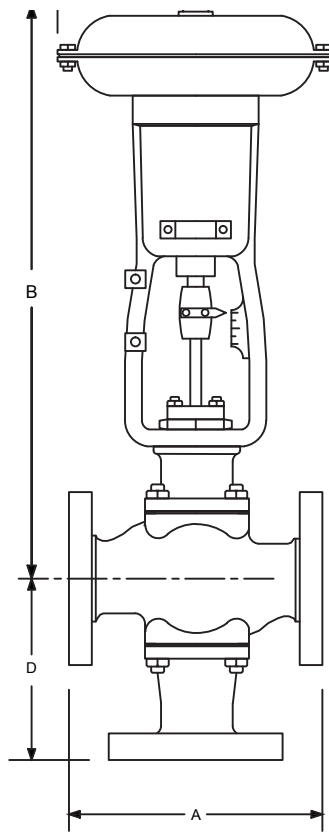
Inch
Millimeter

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 kg	110 50	120 54	145 66	195 88	250 113	330 149	390 177	740 335	1000 453	1375 623	1710 775

NOTES:

Guarantee

Products, auxiliaries and parts thereof, of Allagash International Group, LLC, a manufacturer of Nor' East Controls, 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 Allagash International Group, LLC recommendations. Replacement for items of Allagash International Group, LLC 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 Allagash International Group, LLC be liable in this respect. Equipment or parts manufactured by others but furnished by Allagash International Group, LLC will be repaired or replaced, only to the extent provided in the original manufacturer's warranty to Allagash International Group, LLC. Allagash International Group, LLC does not guarantee resistance to corrosion, erosion, abrasion or other sources of failure, nor does Allagash International Group, LLC 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 Allagash International Group, LLC 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 Allagash International Group, LLC, 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 Allagash International Group, LLC.

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 Allagash International Group, LLC, anything to the contrary contained in the purchase order, or represented by any agent or employee of Allagash International Group, LLC, in writing or otherwise, notwithstanding, including but not limited to implied warranties.

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In no event shall Allagash International Group, LLC, a Manufacturer of Nor' East Controls be liable for any direct, indirect, special or consequential damages whatsoever, and Allagash International Group, LLC 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.



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Allagash International Group, LLC representatives are located in major cities throughout the world. For the name of the representative nearest you, email us: sales@allagashinternational.com

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