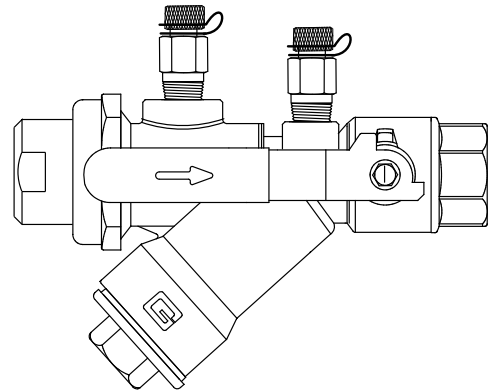


Isolator™ “R” 15-40mm

Automatic Flow Control - Accessible Pre-Set Cartridge



SPECIFICATIONS

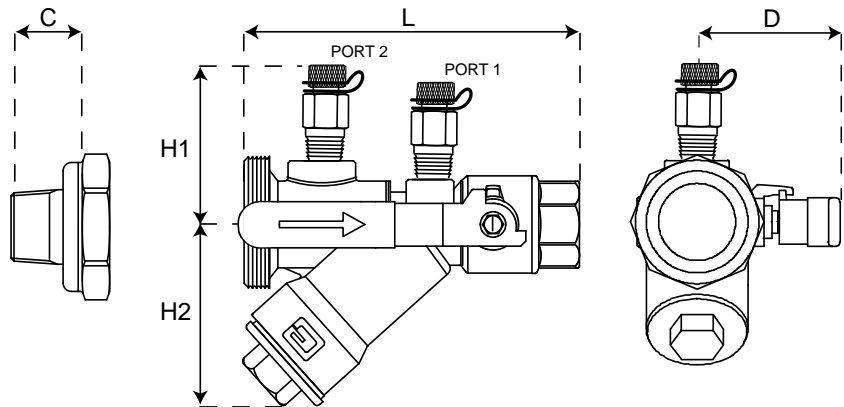
Pressure rating:	2700 kPa / 390 psi
Temperature rating:	+120°C / +248°F
Material:	
- Cartridge:	AISI type 304 stainless steel AISI type 17-7 PH stainless steel spring
- Body:	Forged brass ASTM B283-06
- Ball valve:	Nickel-plated brass ball. Optional: stainless steel ball
- Ball valve seals:	Teflon
- Union end connection (in-let):	Brass alloy NPT or sweat
- O-rings:	EPDM
- Field repairable stem:	Dual teflon seals and EPDM o-ring
Body tappings ¹ :	Port 1 and 2: two combination p/t plug and manual air vent (CPTA)
Assembly:	Valve comes fully assembled

Note 1: Body tappings for accessories are a leak proof metal to metal seal and do not require pipe dope or tape. Tape or dope should not be used.

DIMENSIONS AND WEIGHTS (NOMINAL) (measured in mm unless noted)

Model no.	Valve size	Cartridge size	L		H1	H2	D	C				Weight (kgs.)	Kv ³ (m ³ /hr)
			Fixed end connection					End connections ²					
			NPT female	Sweat				Size	NPT female	NPT male	Sweat		
FIR1xx	15	20	134.7	139.7	55.9	91.5	66.1	10	N/A	N/A	25.4	1.1	9.4
	20		137.2	137.2				15	25.4	25.4	17.8		
	25		137.2	142.3				20	25.4	25.4	25.4		
	25		N/A ⁴	35.6				33.1					
FIR2xx	25	40	203.2	208.3	63.5	78.8	78.8	25	43.2	43.2	43.2	2.3	24.6
	32		193.1	195.6				32	43.2	43.2 ⁵	43.2		
	40		190.5	200.7				40	43.2	43.2 ⁵	35.6		

Note 2: For overall length add union end connection length to body length.
 Note 3: Kv-values are based on housing without cartridge.
 Note 4: Tailpiece is not available for this size. Male tailpiece used with coupling.
 Note 5: 1 1/4"-1 1/2" valves can also take 1/2"-3/4" NPT male tailpieces.



MODEL NUMBER SELECTION⁶

Insert body size:
 1=15-25mm (1/2"-1") 2=25-40mm (1"-1 1/2")

Insert kPaD control range:
 1=10-95 kPaD 2=22-210 kPaD 4=40-390 kPaD 8=90-880 kPaD

Select ball and stem package:
 P=plated ball S=SS ball and stem

Insulation option⁷:
 N=no (standard)

Valve	Fixed end or union end ⁸		Union end only ⁸
	Female threaded	Sweat	Male threaded
FIR1	E=15mm=1/2" F=20mm=3/4" G ⁹ =25mm=1"	K ¹⁰ =10mm=1/4" L=15mm=1/2" M=20mm=3/4" N=25mm=1"	H=15mm=1/2" I=20mm=3/4" J=25mm=1"
FIR2	G=25mm=1" P=32mm=1 1/4" Q=40mm=1 1/2"	N=25mm=1" K=32mm=1 1/4" W=40mm=1 1/2"	H=15mm=1/2" I=20mm=3/4" J=25mm=1" S=32mm=1 1/4" T=40mm=1 1/2"

T=Optional aluminum identification tag:
 Please specify flow requirement as per selection chart when ordering.

Note 6: Model no. and flow rate are indicated on label affixed to body.
 Note 7: Insulation option includes handle cover and accessory extensions.
 Note 8: Select the fixed end first and the union end second.
 Note 9: Tail piece not available for this size. Male tailpiece used with coupling.
 Note 10: Fixed end not available for this size. Union tailpiece only.

FLOW RATE TABLE - FOR VALVES DN15-DN25 SMALL

20mm · 3/4" · stainless steel cartridge											
Nominal flow rate	Pressure range, ΔP:			10-95 kPaD 1-14 psid		22-210 kPaD 2-32 psid		40-390 kPaD 4-57 psid		90-880 kPaD 8-128 psid	
	l/sec	l/hr	GPM	Type 1		Type 2		Type 4		Type 8	
				Marking	Model no.	Marking	Model no.	Marking	Model no.	Marking	Model no.
0.0210	75.7	0.333	11-1	F360111							
0.0315	114	0.500	01-1	F360101							
0.0347	125	0.550			11-2	F360211					
0.0421	151	0.667	02-1	F360102							
0.0473	170	0.750			01-2	F360201	11-4	F360411			
0.0631	227	1.00	03-1	F360103	02-2	F360202	01-4	F360401			
0.0694	250	1.10							11-8	F360811	
0.0841	303	1.33	04-1	F360104			02-4	F360402			
0.0946	341	1.50			03-2	F360203			01-8	F360801	
0.105	379	1.67	05-1	F360105							
0.126	454	2.00	06-1	F360106	04-2	F360204	03-4	F360403	02-8	F360802	
0.147	530	2.33	07-1	F360107							
0.158	568	2.50			05-2	F360205					
0.168	606	2.67	08-1	F360108			04-4	F360404			
0.189	681	3.00			06-2	F360206			03-8	F360803	
0.210	757	3.33	10-1	F360110			05-4	F360405			
0.221	795	3.50			07-2	F360207					
0.252	908	4.00	12-1	F360112	08-2	F360208	06-4	F360406	04-8	F360804	
0.294	1060	4.67	14-1	F360114			07-4	F360407			
0.315	1140	5.00	16-1	F360116	10-2	F360210			05-8	F360805	
0.336	1210	5.33					08-4	F360408			
0.379	1360	6.00			12-2	F360212			06-8	F360806	
0.421	1511	6.67					10-4	F360410			
0.442	1590	7.00			14-2	F360214			07-8	F360807	
0.505	1820	8.00			16-2	F360216	12-4	F360412	08-8	F360808	
0.589	2120	9.33					14-4	F360414			
0.631	2270	10.0					16-4	F360416	10-8	F360810	
0.757	2730	12.0							12-8	F360812	
0.883	3180	14.0							14-8	F360814	
1.01	3630	16.0							16-8	F360816	

Accuracy: ±5% of controlled flow rate.

FLOW RATE TABLE - FOR VALVES DN25 LARGE-DN40

40mm · 1 1/2" · stainless steel cartridge											
Nominal flow rate	Pressure range, ΔP:			10-95 kPaD 1-14 psid		22-210 kPaD 2-32 psid		40-390 kPaD 4-57 psid		90-880 kPaD 8-128 psid	
	l/sec	l/hr	GPM	Type 1		Type 2		Type 4		Type 8	
				Marking	Model no.	Marking	Model no.	Marking	Model no.	Marking	Model no.
0.189	681	3.00	09-1	F361109							
0.210	757	3.33	10-1	F361110							
0.252	908	4.00	12-1	F361112							
0.284	1020	4.50			09-2	F361209					
0.294	1060	4.67	14-1	F361114							
0.315	1140	5.00			10-2	F361210					
0.336	1210	5.33	16-1	F361116							
0.379	1360	6.00	18-1	F361118	12-2	F361212	09-4	F361409			
0.421	1510	6.67	20-1	F361120			10-4	F361410			
0.442	1590	7.00			14-2	F361214					
0.463	1670	7.33	22-1	F361122							
0.505	1820	8.00	24-1	F361124	16-2	F361216	12-4	F361412			
0.547	1970	8.67	26-1	F361126							
0.568	2040	9.00			18-2	F361218			09-8	F361809	
0.589	2120	9.33	28-1	F361128			14-4	F361414			
0.631	2270	10.00	30-1	F361130	20-2	F361220			10-8	F361810	
0.673	2420	10.7	32-1	F361132			16-4	F361416			
0.694	2500	11.0			22-2	F361222					
0.715	2570	11.3	34-1	F361134							
0.757	2730	12.0	36-1	F361136	24-2	F361224	18-4	F361418	12-8	F361812	
0.799	2880	12.7	38-1	F361138							
0.820	2950	13.0			26-2	F361226					
0.841	3030	13.3	40-1	F361140			20-4	F361420			
0.883	3180	14.0	42-1	F361142	28-2	F361228			14-8	F361814	
0.925	3330	14.7	44-1	F361144			22-4	F361422			
0.946	3410	15.0			30-2	F361230					
1.01	3630	16.0			32-2	F361232	24-4	F361424	16-8	F361816	
1.07	3860	17.0			34-2	F361234					
1.09	3940	17.3					26-4	F361426			
1.14	4090	18.0			36-2	F361236			18-8	F361818	
1.18	4240	18.7					28-4	F361428			
1.20	4320	19.0			38-2	F361238					
1.26	4540	20.0			40-2	F361240	30-4	F361430	20-8	F361820	
1.32	4770	21.0			42-2	F361242					
1.35	4850	21.3					32-4	F361432			
1.39	5000	22.0			44-2	F361244			22-8	F361822	
1.43	5150	22.7					34-4	F361434			
1.51	5450	24.0					36-4	F361436	24-8	F361824	
1.60	5750	25.3					38-4	F361438			
1.64	5910	26.0							26-8	F361826	
1.68	6060	26.7					40-4	F361440			
1.77	6360	28.0					42-4	F361442	28-8	F361828	
1.85	6660	29.3					44-4	F361444			
1.89	6810	30.0							30-8	F361830	
2.02	7270	32.0							32-8	F361832	
2.15	7720	34.0							34-8	F361834	
2.27	8180	36.0							36-8	F361836	
2.40	8630	38.0							38-8	F361838	
2.52	9080	40.0							40-8	F361840	
2.65	9540	42.0							42-8	F361842	
2.78	9990	44.0							44-8	F361844	

Accuracy: ±5% of controlled flow rate.

GENERAL SPECIFICATIONS

1. AUTOMATIC BALANCING VALVES - ISOLATOR™ "R"

- 1.1. Contractor shall install automatic balancing valves where indicated in drawings.
- 1.2. Valve shall consist of a dynamic and accessible flow limiting device and isolation handle ball valve.

2. VALVE HOUSING

- 2.1. Valve housing shall consist of forged brass ASTM B283-06 rated at no less than 2700 kPa static pressure and +120°C.
- 2.2. Valve shall be permanently marked to show direction of flow.
- 2.3. Valve shall be constructed in a one piece housing to include an isolation ball. Ball shall be chemically nickel plated brass, alternatively stainless steel.
- 2.4. Combination pressure/temperature plugs and manual air vent for verifying accuracy of flow performance and venting air shall be provided for all valve sizes.
- 2.5. Housing shall be configured for flow regulation unit accessibility.

3. FLOW REGULATOR / AUTOMATIC BALANCING UNIT

- 3.1. Flow regulation unit assembly shall be manufactured of AISI type 304 stainless steel and stainless steel 17-7 spring.
- 3.2. Flow regulation unit shall be readily accessible for change-out or maintenance.
- 3.3. Flow regulation unit shall be available in 4 different kPaD operational ranges, minimum range shall be capable of being activated by minimum 10 kPaD. Further, the flow regulation unit shall be capable of controlling flow within $\pm 5\%$ of rated flow.
- 3.4. Identification tags shall be available for all valves; tags shall be indelibly marked with part number and flow rate.

UPDATES

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