



## **Safety Start-Up Valves HEL – Basic Version**



Metric

Inch

## Safety Start-Up Valves, Type HEL - Basic Version

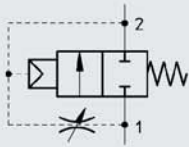
3/2-Way Valve, 1/8" – 1" NPT, G1/8 G1 ISO

### Safety Start-Up Valve

with slow pressure buildup

Type HEL-D-...

HEL-...-D-...(-NPT)



This valve is used to obtain a slow pressure rise in pneumatic installations (in conjunction with on/off valves Type HE-...-D-... and HEE-...-D-...).

As pressure is gradually built up, cylinders and other power components within an installation are brought slowly into their initial positions. The valve switches to full flow when the system pressure has reached approximately 50-70% of the preset operating pressure level.

The valve is used in conjunction with service units as a safety start-up valve in pneumatic systems.

Type HEL-...-D-...(-NPT)  
with threaded connector plates



#### Accessories:

Mounting Bracket, Type HFOE-D-...

Order Number Part No./Type with threaded connector plates	NPT	MINI Size			MIDI Size			MAXI Size	
		173916 HEL-1/8-D- MINI-NPT	173917 HEL-1/4-D- MINI-NPT	173918 HEL-3/8-D- MINI-NPT	173919 HEL-3/8-D- MIDI-NPT	173920 HEL-1/2-D- MIDI-NPT	173921 HEL-3/4-D- MIDI-NPT	173922 HEL-3/4-D- MAXI-NPT	173923 HEL-1-D- MAXI-NPT
	ISO	165076 HEL-1/8-D- MINI	165077 HEL-1/4-D- MINI	165078 HEL-3/8-D- MINI	165079 HEL-3/8-D- MIDI	165080 HEL-1/2-D- MIDI	165081 HEL-3/4-D- MIDI	165082 HEL-3/4-D- MAXI	165083 HEL-1-D- MAXI
Mounting Bracket		159638 HFOE-D-MINI			159593 HFOE-D-MIDI/MAXI				
Connection		1/8 NPT / G 1/8	1/4 NPT / G 1/4	3/8 NPT / G 3/8	3/8 NPT / G 3/8	1/2 NPT / G 1/2	3/4 NPT / G 3/4	3/4 NPT / G 3/4	1 NPT / G 1
Standard Nominal Flow Rate*	scfm / l/min	35.31 / 1000	52.97 / 1500	56.50 / 1600	113.0 / 3200	127.1 / 3600	134.2 / 3800	211.9 / 6000	229.5 / 6500
Medium		Compressed air, filtered (lubricated or unlubricated)							
Design		Spool valve							
Mounting		Single unit: in-line with mounting bracket Combination: Flange mounting to "D-Series" units							
Mounting Position		Vertical, ± 5°							
Pressure Range		40.5 to 240 psi / 2.7 to 16 bar			30 to 240 psi / 2.0 to 16 bar				
Temperature Range		14 to 140°F / -10 to +60°C							
Materials		Spool: stainless steel; Seals: NBR; Housing: aluminum							
Weight (without threaded connector plates)		0.40 lb / 0.182 kg			1.29 lb / 0.586 kg			1.87 lb / 0.850 kg	

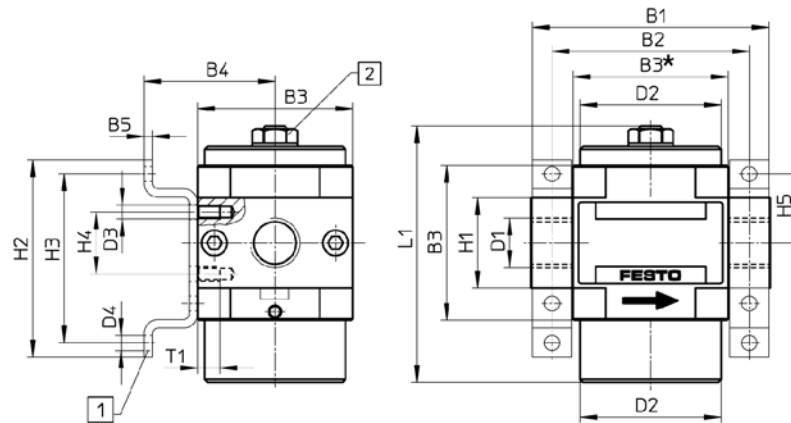
Delivery: Short lead time

\* With 90 psi / 6 bar at inlet and  $\Delta p = 15$  psi / 1 bar.

# Safety Start-Up Valves, Type HEL - Basic Version

Dimensions

Type HEL-...-D-...



- 1 Mounting brackets Type HFOE-D-...  
(order separately)
- 2 Regulating screw for flow control valve

\*Width of valve without threaded connector plates

Type Inch and Metric Series	B1	B2	B3	B4	B5	D1 thread Inch / Metric	D3 thread	D4 in / mm
	in / mm	in / mm	in / mm	in / mm	in / mm			
HEL-1/8-D-MINI	2.52 / 64	2.05 / 52	1.57 / 40	1.55 / 39.4	0.08 / 2	1/8 NPT / G 1/8 ISO	M4	0.17 / 4.3
HEL-1/4-D-MINI	2.52 / 64					1/4 NPT / G 1/4 ISO		
HEL-3/8-D-MINI	2.76 / 70					3/8 NPT / G 3/8 ISO		
HEL-3/8-D-MIDI	3.35 / 85	2.76 / 70	2.17 / 55	1.83 / 46.5	0.12 / 3	3/8 NPT / G 3/8 ISO	M5	0.21 / 5.3
HEL-1/2-D-MIDI						1/2 NPT / G 1/8 ISO		
HEL-3/4-D-MIDI						3/4 NPT / G 3/4 ISO		
HEL-3/4-D-MAXI	3.70 / 96	3.15 / 80	2.60 / 66	2.09 / 53.1	0.12 / 3	3/4 NPT / G 3/4 ISO	M5	0.21 / 5.3
HEL-1-D-MAXI	4.57 / 116	3.58 / 91				1 NPT / G 1 ISO		
Type Inch and Metric Series	H1	H2	H3	H4	H5	L1	T1	
	in / mm	in / mm	in / mm	in / mm	in / mm			in / mm
HEL-1/8-D-MINI	0.79 / 20	1.69 / 43	1.38 / 35	0.43 / 11	0.69 / 17.5	2.60 / 66	0.28 / 7	
HEL-1/4-D-MINI								
HEL-3/8-D-MINI								
HEL-3/8-D-MIDI	1.26 / 32	2.76 / 70	2.36 / 60	0.86 / 22	0.96 / 24.5	3.59 / 91.1	0.32 / 8	
HEL-1/2-D-MIDI								
HEL-3/4-D-MIDI								
HEL-3/4-D-MAXI	1.57 / 32	2.76 / 70	2.36 / 60	0.86 / 22	0.96 / 24.5	4.07 / 103.5	0.32 / 8	
HEL-1-D-MAXI	1.57 / 40							

Metric

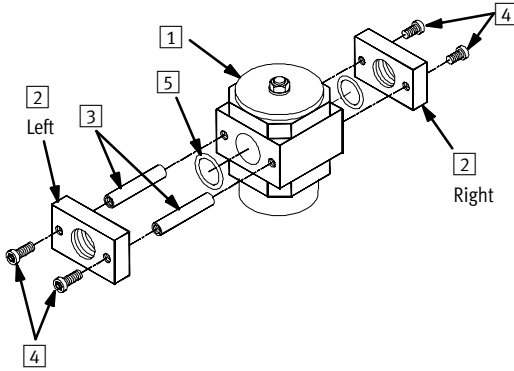
Inch

### Ship-From-Stock Component Program

D-Series Service Units Port Sizes 1/8" to 1"

Ordering via the Ship-From-Stock Component Program allows for off-the-shelf availability of the components required to assemble a complete air preparation unit.

A complete valve assembly consists of the following items:



Item	Description	Qty Required per Assy
1	Main Unit	1
2	Port Block	2 [one left, one right]
3	Single Unit Joining Rod	2
4	Port Block Screw	4
5	Port Block Seal	2
6	Mounting Bracket Kit [Not shown]	1

**Step 1:** Based upon the required Port Size, Maximum Flow, Filtration Level, Drain Type, and Thread Type, select the Main Unit [Item 1] and the Left and Right Port Block [Item 2]. Note the Product Type/Description for the next step.

Port size	Max. Flow (l/min/sfcm)	Item		Product Type/ Description			
		1	2	NPT Thread		BSP Thread	
		Main Unit		Left Connection Port Block	Right Connection Port Block	Left Connection Port Block	Right Connection Port Block
1/8	1000/35.3	170 690	372 030	372 038	380 285	380 287	HEL-...-D-MINI-...
	1500/52.9		372 031	372 039	380 289	380 291	
1/4	2600/91.8	170 691	-	-	380 902	380 903	HEL-...-D-MIDI-...
	3/8	1600/56.5	170 690	372 032	372 040	380 293	380 295
3200/113.0		170 691	372 035	372 043	380 297	380 299	HEL-...-D-MIDI-...
1/2	3600/127.1	170 692	372 033	372 041	380 301	380 303	HEL-...-D-MIDI-...
	5600/197.8		-	-	381 529	381 530	HEL-...-D-MAXI-...
3/4	3800/134.2	170 691	372 034	372 042	380 305	380 307	HEL-...-D-MIDI-...
	6000/211.9	170 692	372 036	372 044	380 309	380 311	HEL-...-D-MAXI-...
1	6500/229.5		372 037	372 045	380 313	380 315	

☐ Not available

Next...Step 2

Inch

Metric

## Electrical Shut-Off Valve Selector Guide

D-Series Service Units Port Sizes 1/8" to 1"

**Step 2:** Based upon the Product Type/Description from Step 1, select the Joining Rods [Item **3**], the Port Block Screws [Item **4**], the Port Block Seals [Item **5**], and the Mounting Bracket Kit [Item **6**].

	Item <b>3</b>	Item <b>4</b>	Item <b>5</b>	Item <b>6</b> [Not shown]
Product Type/Description	Single Unit Joining Rod	Port Block Screw	Port Block Seal	Mounting Bracket Kit
HEL...-D-MINI-...	359 787	200 664	235 260	159 638
HEL...-D-MIDI-...	369 989	202 824	200 950	159 593
HEL...-D-MAXI-...	373 059		234 380	159 593

**Step3:** Determine the appropriate quantity of each Item.

### Ordering Example:

Required: 3/8 port size, 3000 l/min flow, BSP threads.

	Item	Part No.	Qty	Description
Order:	<b>1</b>	170 691	1	Main Unit
	<b>2</b>	380 297	1	Left Port Block
		380 299	1	Right Port Block
	<b>3</b>	369 989	2	Single Unit Joining Rod
	<b>4</b>	202 824	4	Port Block Screws
	<b>5</b>	200 950	3	Port Block Seals
	<b>6</b>	159 593	1	Mounting Bracket Kit

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