

SELECTOR VALVE

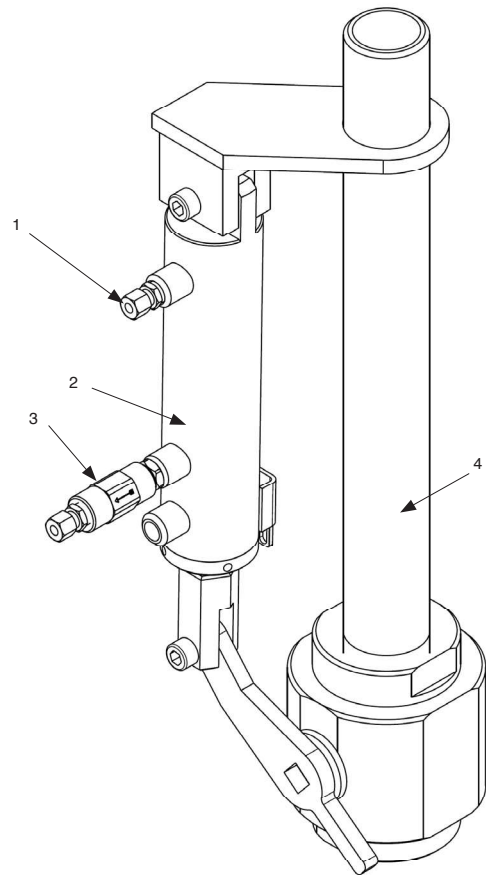
The selector valve applies to applications where multiple areas require protection from a single bank of containers. The valves pneumatically operate through a pilot container. Selector valves can be installed outside of the protected space (remotely) as well as adjacent to the container bank as shown in Figure 3-40. If installation outside of the protected space (remotely) is required, then the decompression screw (Part number 30027301) and 1/4 in. Dowty Seal (Part number 31199816) must be installed on the outlet of the selector valve.

The pressure enters through the inlet port (see Figure 3-39). When the selector valve opens fully, the contained pressure exits through the outlet port. Pressure from the bottom port connects through a suitable pilot line to operate the appropriate number of containers required to protect a particular hazard. The following figure illustrates a typical selector valve system.

A typical system operates in the following sequence:

1. The fire detection system in one of the protected hazards operates.
2. The fire detection system sends a fire signal to the solenoid on the pilot container and it operates.
3. Simultaneously, a signal operates a second solenoid that connects to the pilot line from the pilot container. This second solenoid opens and pilot container pressure passes to the appropriate selector valve.
4. The selector valve piston operates and opens the selector valve. When the piston is at its fullest travel, the selector valve is fully open.
5. Pressure passes from a port in the bottom of the piston to the container bank. This pressure operates the container bank and inert agent discharges through the selector valve into the hazard.

Note: The unit comes with a non-return valve. Order union connectors to connect the selector valves to the pipework separately. See Table 3-22 for details.



Item	Description
1	Inlet port
2	Pneumatic cylinder
3	Outlet port
4	Valve

FIGURE 3-39
iFLOW SELECTOR VALVE
025740

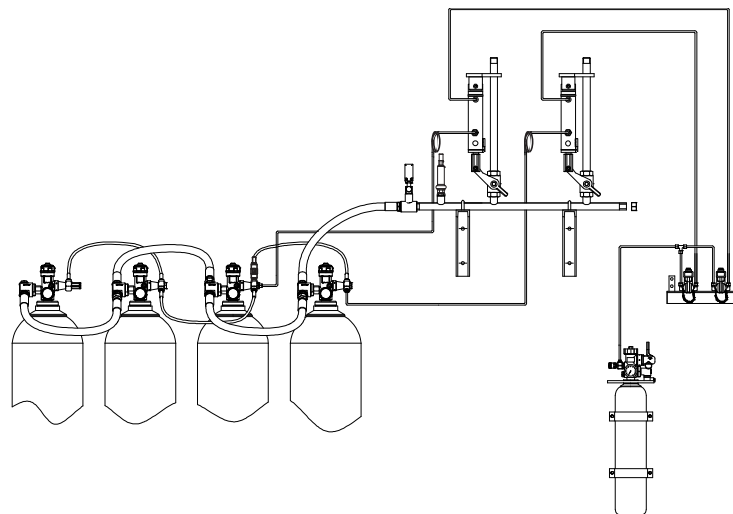


FIGURE 3-40
iFLOW SELECTOR VALVE SYSTEM (UNEQUAL SIZE RISKS)
025351

SELECTOR VALVE (Continued)

Location on system

The selector valve fits to the selector valve manifold. For installation steps, see Section 4 - Installing the Selector Valve.

Maintenance instructions

If faults or suspected faults arise, contact customer services to organise a replacement part.

Factory testing

Each selector valve is function tested five times at the minimum actuation pressure of 60 bar to confirm the correct operation (open and closing) of the valve and the time taken to complete this operation. Each selector valve is also hydrostatically tested to 210 bar.

Technical information

Valve bore size:	20 mm to 100 mm
Valve construction:	Steel
Valve connection (threaded):	Threaded NPT Female inlet NPT Male outlet
Pneumatic port connection:	1/4 in. BSPP
Working temperature range:	-20 °C to 50 °C
Mounting position:	Horizontal or vertical
Nominal actuation pressure:	100 bar
Maximum working pressure:	140 bar
Minimum actuation pressure:	60 bar
Maximum actuation pressure:	115 bar
Approvals and listings:	VdS
Certification:	EN 12094-5
CE certification number:	0786-CPR-30199
Year of CE marking:	2010
CE marking requirements:	Manufacturer, part number, DNXX, serial number, CE0786

TABLE 3-15: SELECTOR VALVE

Selector valve assembly with manual release	Selector valve assembly with blind caps*	Size mm (in.)	Dimensions (length x width) (mm)	Weight (kg)
445043	442795	20 (3/4)	511 x 192	7.5
445044	442796	25 (1)	524 x 203	8.8
445045	442797	32 (1 1/4)	527 x 227	11.5
445046	442798	40 (1 1/2)	543 x 243	13.0
445047	442799	50 (2)	560 x 256	17.0
445048	442800	65 (2 1/2)	590 x 283	27.5
445049	442801	80 (3)	612 x 310	33.9
445050	442802	100 (4)	748 x 363	58.0

* For VdS system approval, manual release devices cannot be used and so blind caps are substituted.

Note: With each selector valve shipping assembly, the selector valve solenoid actuator (Part number 30130253V or 30130255V), non-return valve, and appropriate fittings come with the selector valve. Order selector valve solenoid brackets separately.

Selector valve ancillaries

Johnson Controls provide a selector valve microswitch (Part number 30116011) and when fitted, electronically signals that the selector valve operates.

Johnson Controls provide a lever (Part number 20010013) to manually close the selector valve after operation.

Pneumatic cylinder volumes

The volume of a pneumatic cylinder on a 3/4 in. to 3 in. selector valve is equivalent to 14 m of 1/4 in. O.D. pneumatic actuation line tubing. For a 4 in. selector valve, the volume equates to 32 m of tubing. Deduct these volumes from the total allowable volume of pneumatic actuation line when using a selector valve in a system. Refer to the installation instructions for selector valves in Section 4 - Installing the Selector Valve.



When mounting the selector valve, sufficient clearance must be allowed for operating the manual lever.

SELECTOR VALVE ASSEMBLY CONTENTS

Each selector valve shipping assembly includes the following components:

- Selector valve
- Selector valve solenoid
- Non-return valve
- Appropriate pipe fittings

Order the selector valve solenoid brackets (see Table 3-18) and union connectors (see Table 3-22) separately.

TABLE 3-16: CONTENTS OF iFLOW SELECTOR VALVE SHIPPING ASSEMBLIES (SOLENOID WITH MANUAL RELEASE)

Contents within the selector valve assembly (solenoid with manual release)						
Selector valve size	Selector valve assembly	Selector valve	Selector valve solenoid (Manual release)	Non-return valve	6 mm O.D. (outer diameter) tube fittings	1/4 in. Dowty (bonded) seal
	Part number	Part number	Part number	Part number	Part number	Part number
20 mm (3/4 in.)	445043	21100050V	30130253V	20006020	2 × 309.010.008	2 × 31199816
25 mm (1 in.)	445044	21100060V	30130253V	20006020	2 × 309.010.008	2 × 31199816
32 mm (1 1/4 in.)	445045	21100070V	30130253V	20006020	2 × 309.010.008	2 × 31199816
40 mm (1 1/2 in.)	445046	21100080V	30130253V	20006020	2 × 309.010.008	2 × 31199816
50 mm (2 in.)	445047	21100090V	30130253V	20006020	2 × 309.010.008	2 × 31199816
65 mm (2 1/2 in.)	445048	62116006V	30130253V	20006020	2 × 309.010.008	2 × 31199816
80 mm (3 in.)	445049	62116004V	30130253V	20006020	2 × 309.010.008	2 × 31199816
100 mm (4 in.)	445050	62116005V	30130253V	20006020	2 × 309.010.008	2 × 31199816

TABLE 3-17: CONTENTS OF iFLOW SELECTOR VALVE SHIPPING ASSEMBLIES (SOLENOID ONLY WITH BLIND CAPS)

Contents Within the selector valve assembly (solenoid only with blind cap)						
Selector valve size	Selector valve assembly	Selector valve	Selector valve solenoid (Blind cap)	Non-return valve	6 mm O.D. tube fittings	1/4 in. Dowty (bonded) seal
	Part number	Part number	Part number	Part number	Part number	Part number
20 mm (3/4 in.)	442795	21100050V	30130255V	20006020	2 × 309.010.008	2 × 31199816
25 mm (1 in.)	442796	21100060V	30130255V	20006020	2 × 309.010.008	2 × 31199816
32 mm (1 1/4 in.)	442797	21100070V	30130255V	20006020	2 × 309.010.008	2 × 31199816
40 mm (1 1/2 in.)	442798	21100080V	30130255V	20006020	2 × 309.010.008	2 × 31199816
50 mm (2 in.)	442799	21100090V	30130255V	20006020	2 × 309.010.008	2 × 31199816
65 mm (2 1/2 in.)	442800	62116006V	30130255V	20006020	2 × 309.010.008	2 × 31199816
80 mm (3 in.)	442801	62116004V	30130255V	20006020	2 × 309.010.008	2 × 31199816
100 mm (4 in.)	442802	62116005V	30130255V	20006020	2 × 309.010.008	2 × 31199816