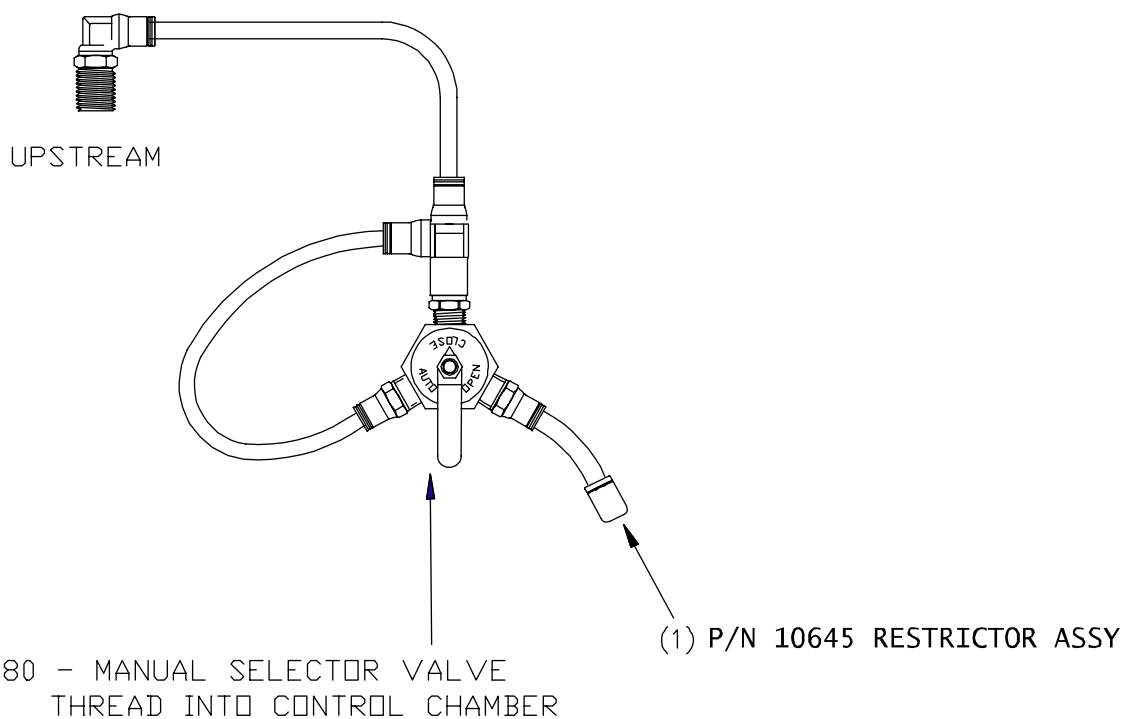


MANUAL ON/OFF

MODEL D1E1H1

FLOW DIRECTION



VALVE SIZE	TUBING SIZE	OPENING AND CLOSING SPEEDS		
		OPENING WITH #6 NOZ.	OPENING WITHOUT #6 NOZ.	CLOSING
2 INCH	1/4 INCH			
3 INCH	1/4 INCH	4 SEC (1-220 GPM)	3 SEC (1-220 GPM)	3 SEC (220-1 GPM)
4 INCH	1/4 INCH	4 SEC (1-300 GPM)	3 SEC (1-300 GPM)	3 SEC (300-1 GPM)
6 INCH	1/4 INCH	8 SEC (1-900 GPM)	3 SEC (1-900 GPM)	4 SEC (900-1 GPM)
8 INCH	1/4 INCH	23 SEC (1-1500 GPM)	6 SEC (1-1500 GPM)	18 SEC (1500-1 GPM)

SOLENOID WITH INTERNAL FILTER

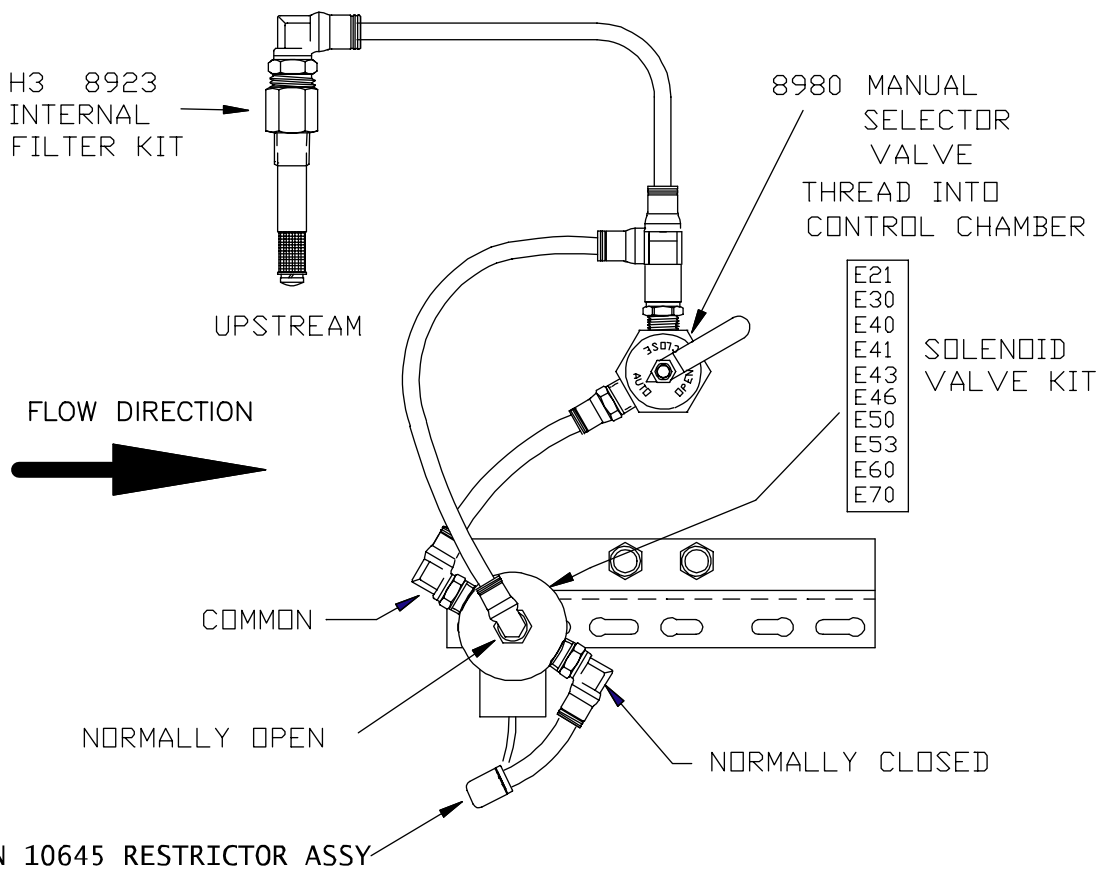
CLOSED: WHEN THE SOLENOID IS DE-ENERGIZED, UPSTREAM PRESSURE IS APPLIED TO THE CONTROL CHAMBER CLOSING THE MAIN VALVE.

OPEN: WHEN THE SOLENOID IS ENERGIZED, THE MAIN VALVE IS OPENED BY VENTING THE CONTROL CHAMBER TO ATMOSPHERE.

MODEL # D1

H3

- E21
- E30
- E40
- E41
- E43
- E46
- E50
- E53
- E60
- E70



VALVE SIZE	TUBING SIZE	OPENING AND CLOSING SPEEDS		
		OPENING WITH #6 NOZ.	OPENING WITHOUT #6 NOZ.	CLOSING
2 INCH	1/4 INCH			
3 INCH	1/4 INCH	5 SEC (1-220 GPM)	4 SEC (1-220 GPM)	8 SEC (220-1 GPM)
4 INCH	1/4 INCH	7 SEC (1-300 GPM)	5 SEC (1-300 GPM)	14 SEC (300-1 GPM)
6 INCH	1/4 INCH	21 SEC (1-900 GPM)	8 SEC (1-900 GPM)	38 SEC (900-1 GPM)
8 INCH	1/4 INCH	91 SEC (1-1500 GPM)	24 SEC (1-1500 GPM)	135 SEC (1500-1 GPM)

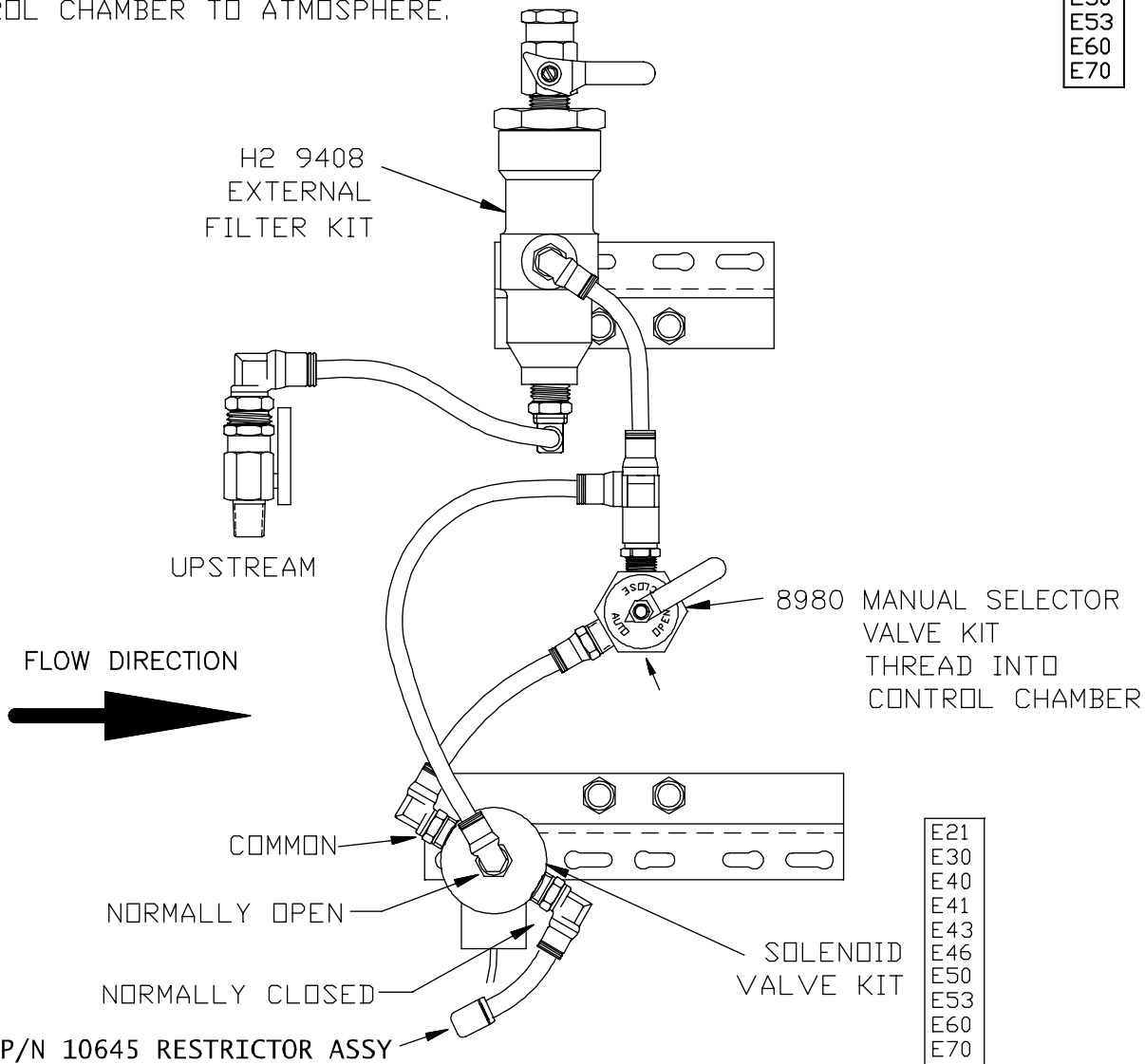
SOLENOID WITH EXTERNAL FILTER

CLOSED: WHEN THE SOLENOID IS DE-ENERGIZED, UPSTREAM PRESSURE IS APPLIED TO THE CONTROL CHAMBER CLOSING THE MAIN VALVE.

OPEN: WHEN THE SOLENOID IS ENERGIZED, THE MAIN VALVE IS OPENED BY VENTING THE CONTROL CHAMBER TO ATMOSPHERE.

MODEL # D1 H2

- E21
- E30
- E40
- E41
- E43
- E46
- E50
- E53
- E60
- E70



VALVE SIZE	TUBING SIZE	OPENING AND CLOSING SPEEDS		
		OPENING WITH #6 NOZ.	OPENING WITHOUT #6 NOZ.	CLOSING
2 INCH	1/4 INCH	5 SEC (1-220 GPM)	4 SEC (1-220 GPM)	10 SEC (220-1 GPM)
3 INCH	1/4 INCH	7 SEC (1-300 GPM)	5 SEC (1-300 GPM)	16 SEC (300-1 GPM)
4 INCH	1/4 INCH	21 SEC (1-900 GPM)	8 SEC (1-900 GPM)	46 SEC (900-1 GPM)
6 INCH	1/4 INCH	91 SEC (1-1500 GPM)	24 SEC (1-1500 GPM)	171 SEC (1500-1 GPM)

LARGE SOLENOID WITH INTERNAL FILTER

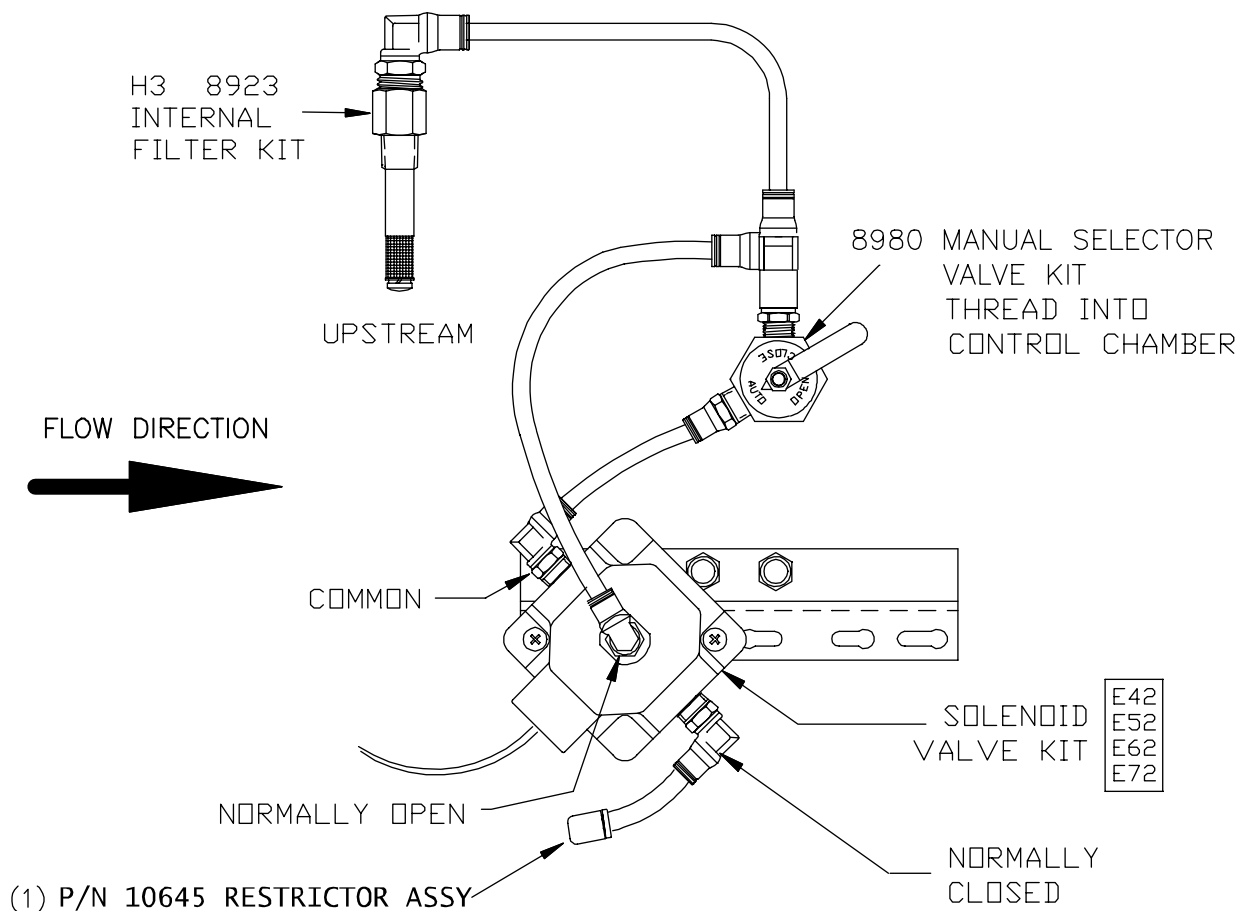
CLOSED: WHEN THE SOLENOID IS DE-ENERGIZED, UPSTREAM PRESSURE IS APPLIED TO THE CONTROL CHAMBER CLOSING THE MAIN VALVE.

MODEL # D1

 E42
 E52
 E62
 E72

H3

OPEN: WHEN THE SOLENOID IS ENERGIZED, THE MAIN VALVE IS OPENED BY VENTING THE CONTROL CHAMBER TO ATMOSPHERE.



THE LARGE SOLENOID IN THIS CONFIGURATION ALLOWS THE SIX AND EIGHT-INCH VALVES TO OPEN AND CLOSE EXTREMELY FAST AND WILL SELDOM BE DESIRABLE. THE TWO-, THREE-, & FOUR-INCH VALVES CAN OPEN AND CLOSE PLENTY FAST USING THE SMALLER SOLENOID.

VALVE SIZE	TUBING SIZE	OPENING AND CLOSING SPEEDS		
		OPENING WITH #6 NOZ.	OPENING WITHOUT #6 NOZ.	CLOSING
6 INCH 8 INCH	1/4 INCH 3/8 INCH	11 SEC (1-900 GPM) 35 SEC (1-1500 GPM)	4 SEC (1-900 GPM) 10 SEC (1-1500 GPM)	5 SEC (900-1 GPM) 22 SEC (1500-1 GPM)

LARGE SOLENOID WITH EXTERNAL FILTER

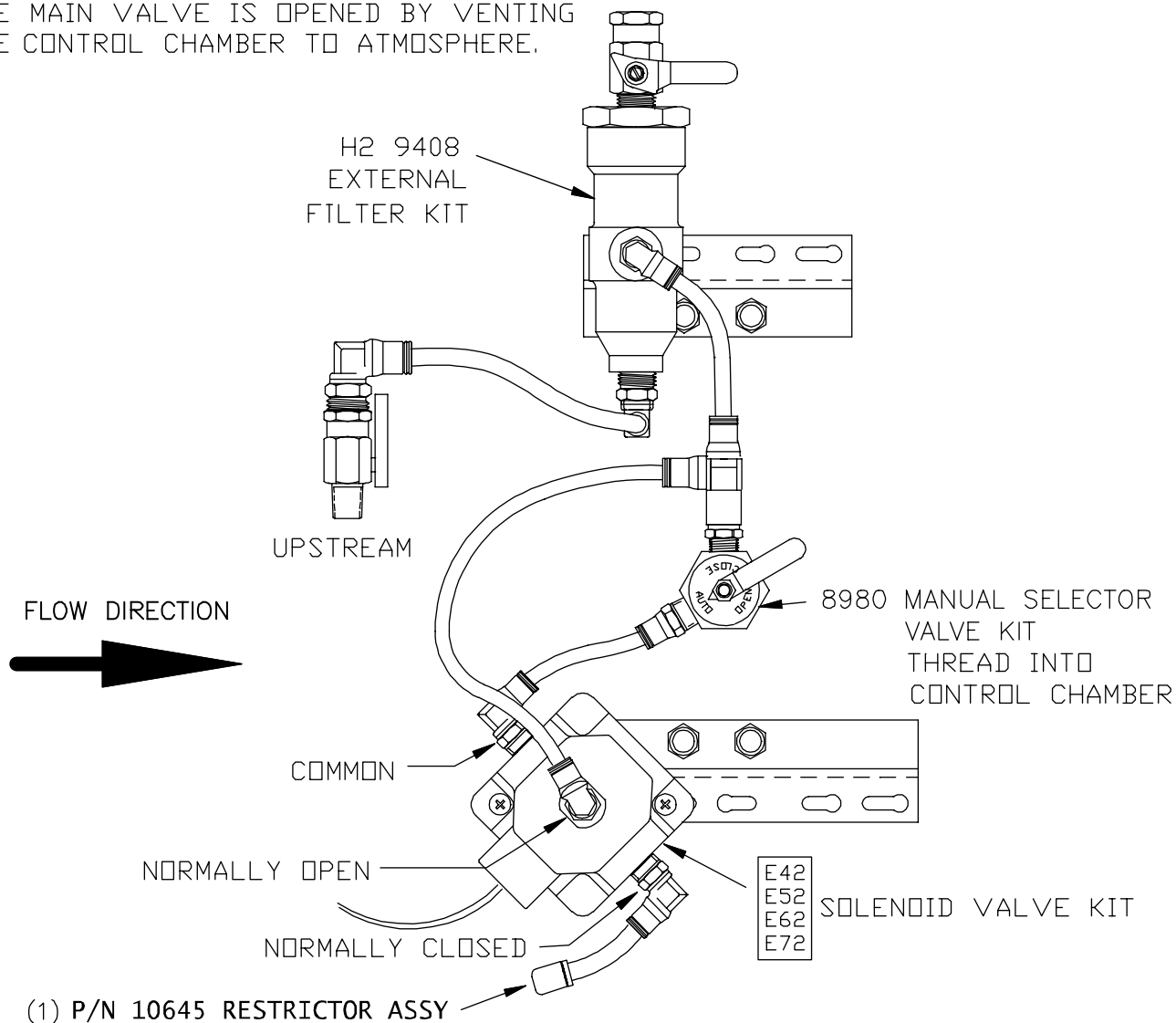
CLOSED: WHEN THE SOLENOID IS DE-ENERGIZED, UPSTREAM PRESSURE IS APPLIED TO THE CONTROL CHAMBER CLOSING THE MAIN VALVE.

OPEN: WHEN THE SOLENOID IS ENERGIZED, THE MAIN VALVE IS OPENED BY VENTING THE CONTROL CHAMBER TO ATMOSPHERE.

MODEL # D1

E42
E52
E62
E72

 H2



THE LARGE SOLENOID IN THIS CONFIGURATION ALLOWS THE SIX AND EIGHT-INCH VALVES TO OPEN AND CLOSE EXTREMELY FAST AND WILL SELDOM BE DESIRABLE. THE TWO-, THREE-, & FOUR-INCH VALVES CAN OPEN AND CLOSE QUICKLY USING THE SMALLER SOLENOID.

VALVE SIZE	TUBING SIZE	OPENING AND CLOSING SPEEDS		
		OPENING WITH #6 NOZ.	OPENING WITHOUT #6 NOZ.	CLOSING
6 INCH	1/4 INCH	11 SEC (1-900 GPM)	4 SEC (1-900 GPM)	6 SEC (900-1 GPM)
8 INCH	3/8 INCH	35 SEC (1-1500 GPM)	10 SEC (1-1500 GPM)	28 SEC (1500-1 GPM)

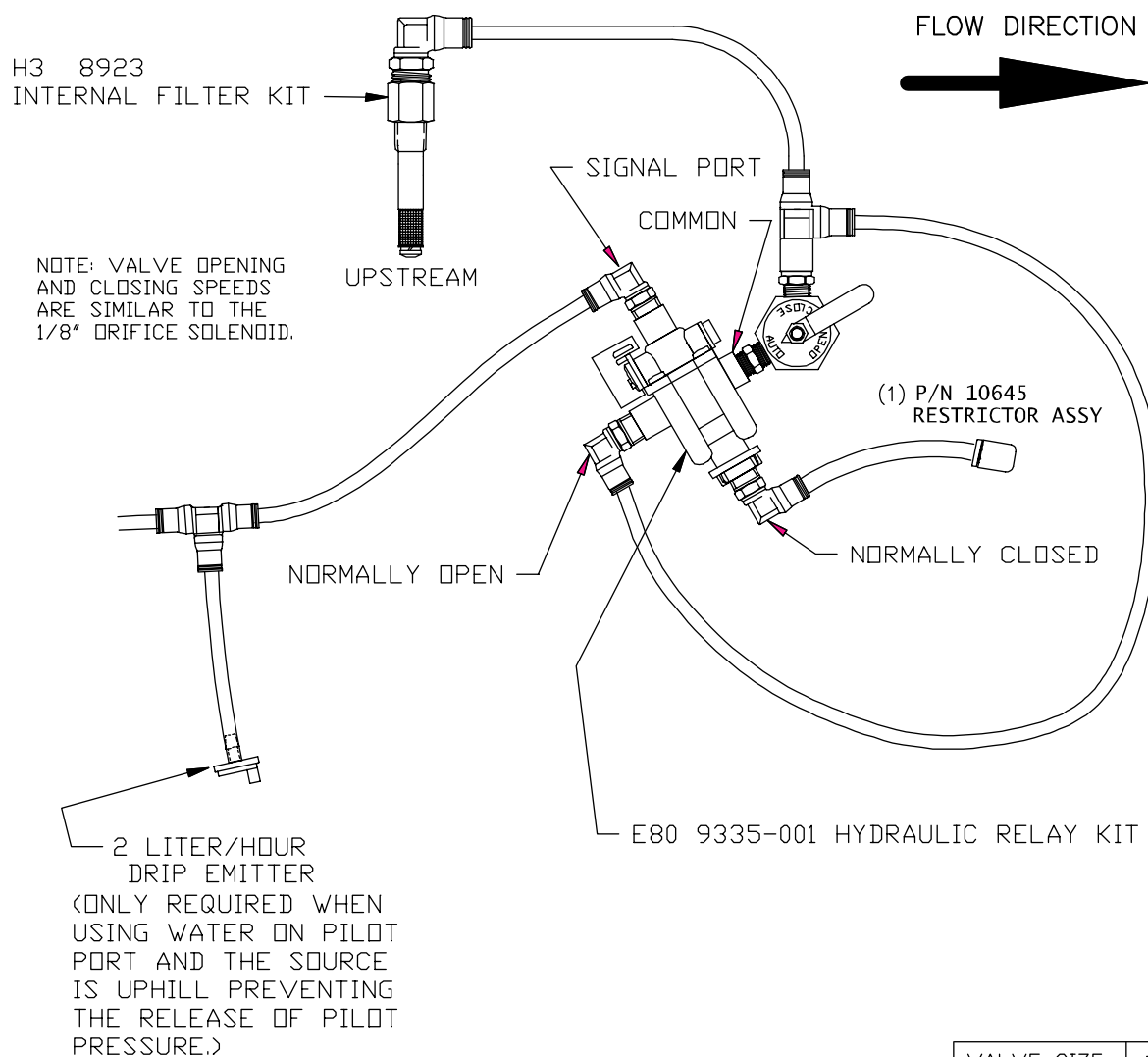
HYDRAULIC RELAY WITH INTERNAL FILTER

CLOSED: WHEN THE HYDRAULIC RELAY DOES NOT HAVE PRESSURE AT THE SIGNAL PORT, UPSTREAM PRESSURE IS APPLIED TO THE CONTROL CHAMBER CLOSING THE MAIN VALVE.

MODEL # D1 E80 H3

OPEN: WHEN THE RELAY HAS PRESSURE APPLIED TO THE SIGNAL PORT, THE MAIN VALVE IS OPENED BY VENTING THE CONTROL CHAMBER TO ATMOSPHERE.

NOTE: SIGNAL PORT PRESSURE MUST BE EQUAL TO OR GREATER THAN UPSTREAM PRESSURE IN ORDER TO ACTIVATE HYDRAULIC RELAY CORRECTLY.



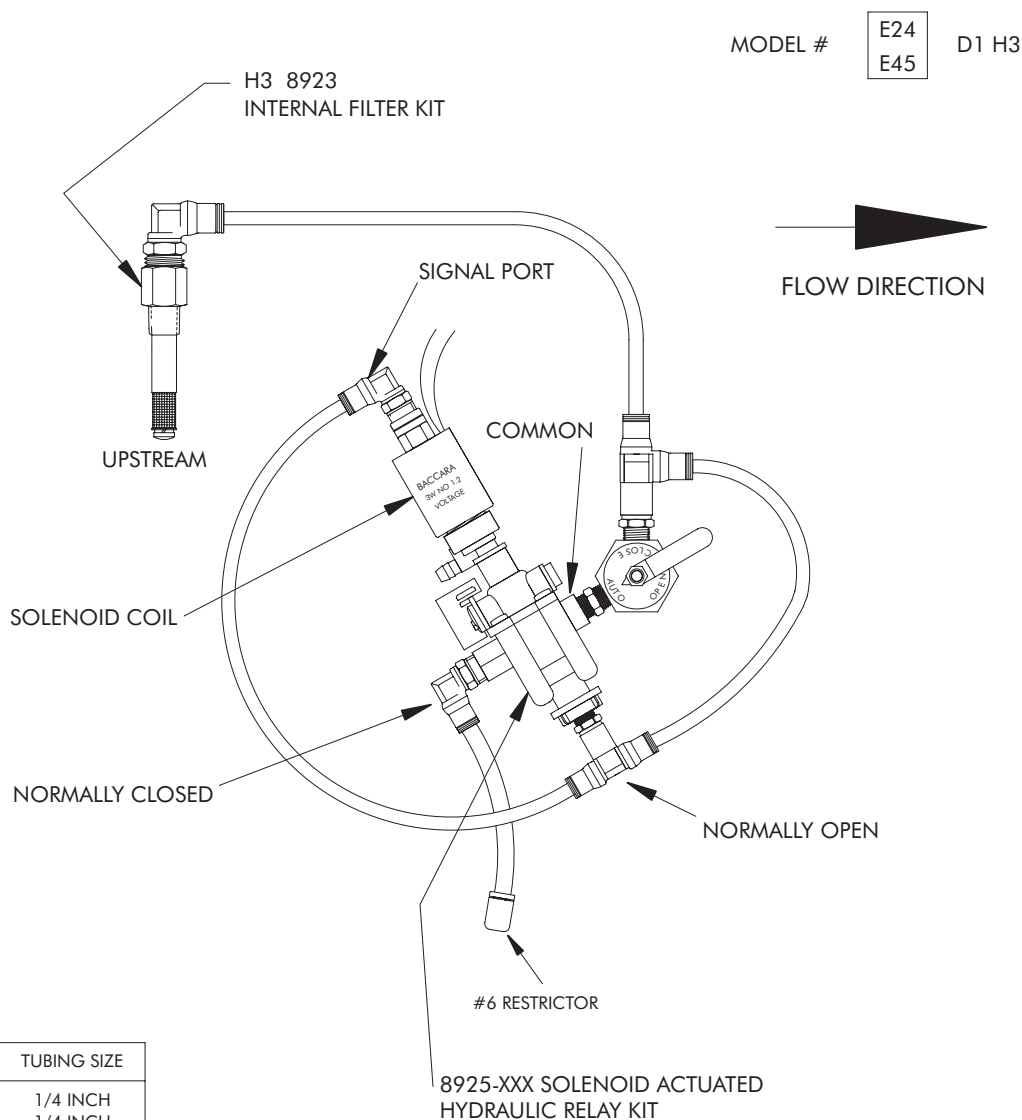
VALVE SIZE	TUBING SIZE
2 INCH	1/4 INCH
3 INCH	1/4 INCH
4 INCH	1/4 INCH
6 INCH	1/4 INCH
8 INCH	1/4 INCH

NORMALLY CLOSED SOLENOID ACTUATED HYD. RELAY & INT. FILTER

THE VALVE WILL REMAIN CLOSED AS LONG AS THE SOLENOID ATTACHED TO THE HYDRAULIC RELAY IS DE-ENERGIZED. ONCE THE SOLENOID IS ENERGIZED THE VALVE BEGINS TO OPEN.

SOLENOID ENERGIZED: VALVE WILL OPEN BY VENTING CONTROL CHAMBER TO ATMOSPHERE.

SOLENOID DE-ENERGIZED: VALVE WILL CLOSE BY APPLYING UPSTREAM PRESSURE TO CONTROL CHAMBER.



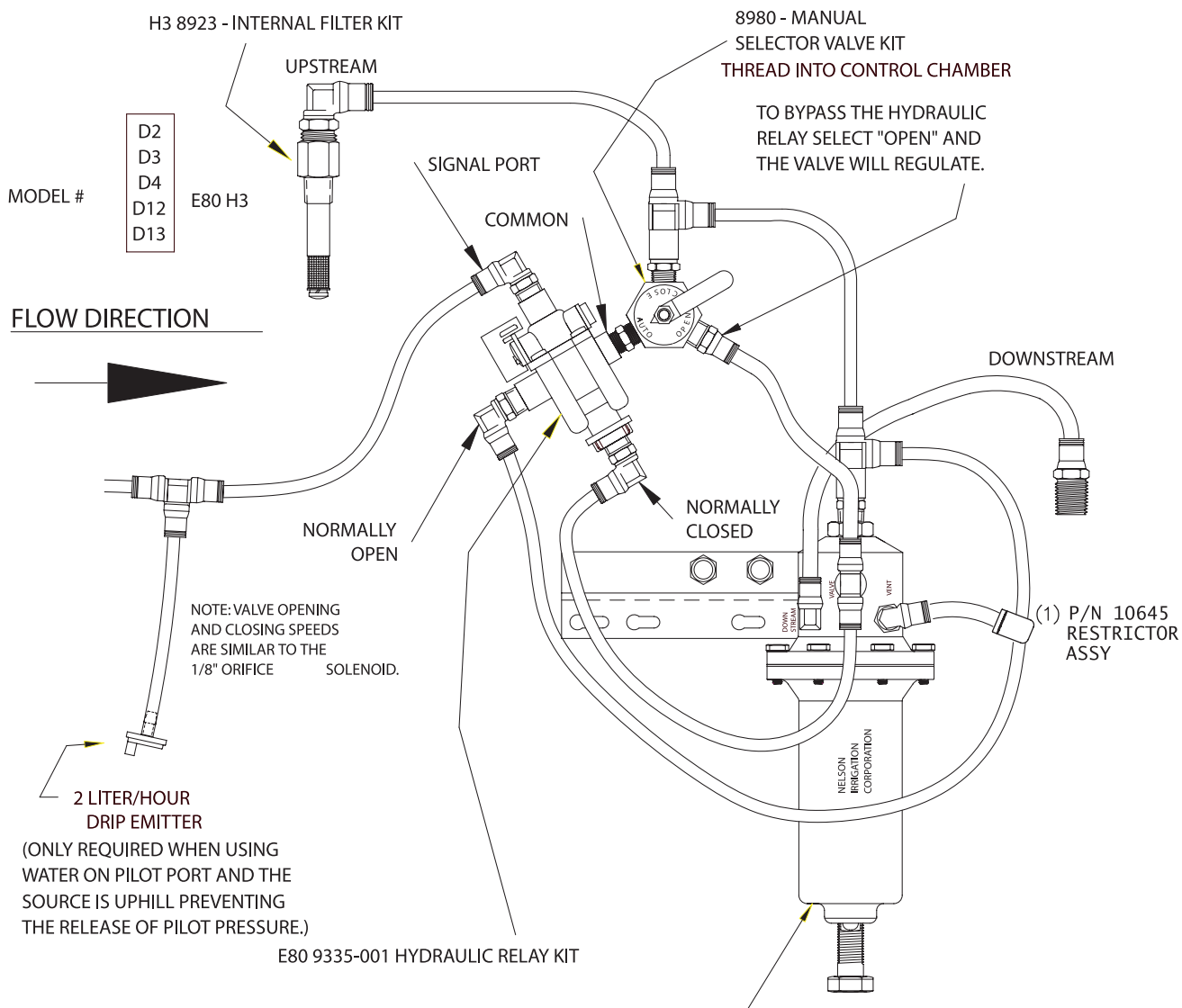
VALVE SIZE	TUBING SIZE
2 INCH	1/4 INCH
3 INCH	1/4 INCH
4 INCH	1/4 INCH
6 INCH	1/4 INCH
8 INCH	1/4 INCH

PRESSURE REDUCING WITH HYDRAULIC RELAY & INTERNAL FILTER

HYDRAULIC RELAY PRESSURIZED AT SIGNAL PORT: PRESSURE-REDUCING VALVE AUTOMATICALLY REDUCES A HIGHER INLET PRESSURE TO A CONSTANT OUTLET PRESSURE REGARDLESS OF VARYING INLET PRESSURE AND/OR CHANGING FLOW RATE.

HYDRAULIC RELAY NOT PRESSURIZED AT SIGNAL PORT: VALVE WILL CLOSE.

NOTE: SIGNAL PORT PRESSURE MUST BE EQUAL TO OR GREATER THAN UPSTREAM PRESSURE IN ORDER TO ACTIVATE HYDRAULIC RELAY CORRECTLY.



VALVE SIZE	TUBING SIZE
2 INCH	1/4 INCH
3 INCH	1/4 INCH
4 INCH	1/4 INCH
6 INCH	1/4 INCH
8 INCH	1/4 INCH

D2 9529-001 PRESSURE-REDUCING KIT 5-50 PSI (.3-3.4 BAR)
D3 9529-002 PRESSURE-REDUCING KIT 10-120 PSI (.7-8.3 BAR)
D4 9529-003 PRESSURE-REDUCING KIT 25-200 PSI (1.7-13.8 BAR)

SMALL PILOT FOR 2" AND 3" VALVES

D12 9691-001 PRESSURE-REDUCING KIT 5-60 PSI (.3-4 BAR)
D13 9691-002 PRESSURE-REDUCING KIT 10-120 PSI (.7-8.3 BAR)