

# Mark 630 Series

## High Pressure Regulators

The Jordan Mark 630 self-operated pressure reducing regulator is designed to provide tight shutoff and accurate regulation on high pressure gas systems. It can be used on air and a variety of gases. It is designed to handle inlet pressures up to 1500 psi.

### FEATURES

- Inlet pressures to 1500 psi (103,4 bar)
- Tight shutoff
- Easy maintenance
- Rugged design
- Multiple orifice sizes, stainless steel
- NACE compatible

### SPECIFICATIONS

**Sizes:** 1" (DN25) and 2" (DN50)

**End Connections:** FNPT (contact factory for other options)

#### Materials:

- Body: Ductile Iron, Carbon Steel (LLC)
- Seat: 316 Stainless Steel (CF8M)
- Disc Assembly: 316 / Nylon
- Diaphragm: Neoprene, Viton
- Spring Housing: Steel

**Service:** Air or gas

**Temperature Range:** -20°F to 150°F (-28,9°C to 65,6°C)

**Maximum Inlet Pressure:** 1500 psi (103,4 bar)



**TABLE 1: MAX INLET PRESSURES AND PRESSURE DROPS**

Orifice Diameter	1/8" + 3/16"	1/4"	3/8"	1/2"
Max Allowable Inlet Pressure, psig <sup>(1)</sup>	1500	1500	1000	750
Max Allowable Pressure Drop, psid	1500	1000	500	250

1. The sum of the outlet pressure setting and the maximum allowable pressure drop determines the maximum allowable inlet pressure for a given installation. For example, with a 3/8" seat ring orifice (maximum pressure drop of 500 psi) and a 275 psig outlet pressure setting, the maximum inlet pressure is 775 psig (500 psi + 275 psig).

#### Reduced Pressure Control Range:

- 27 - 50 psig (1,86 - 3,45 bar)
- 46 - 95 psig (3,17 - 6,55 bar)
- 90 - 150 psig (6,21 - 10,34 bar)
- 150 - 200 psig (10,34 - 13,79 bar)
- 200 - 275 psig (13,79 - 19,0 bar)
- 275 - 500 psig (19,0 - 34,5 bar)

**Orifice Sizes (interchangeable):** 1/8" (3mm), 3/16" (5mm), 1/4" (6mm), 3/8" (10mm), 1/2" (13mm)

**TABLE 2: OUTLET PRESSURE LIMITS FOR SPRING-LOADED MARK 630 HP REGULATORS**

Outlet Pressure Range	Low-Pressure Regulator				High-Pressure Regulator					
	3 to 10 psig	8 to 20 psig	17 to 30 psig	27 to 40 psig	27 to 50 psig	46 to 95 psig	90 to 150 psig	150 to 200 psig	200 to 275 psig	275 to 500 psig
Maximum Operating Outlet Pressure, PSIG	10	20	30	40	50	95	150	200	275	500
Max. Outlet Pressure Over Pressure Setting <sup>1</sup> , PSIG	20		20 <sup>2</sup>	Ltd. By Max. emr Outlet Pr.	200					200 <sup>3</sup>
Max. Emergency Outlet (Casing) Pressure, PSIG	45				500					

1. Damage to internal parts of the regulator may occur if outlet pressure exceeds the actual pressure setting by amounts greater than shown in this row
2. For outlet pressure settings to 25 psig only. For pressure settings over 25 psig, outlet pressure is limited by max. emergency outlet pressure of 45 psig.
3. For outlet pressure settings to 350 psig only. For pressure settings over 350 psig, outlet pressure is limited by max. emergency outlet pressure of 550 psig.
4. Leakage or bursting of pressure-containing parts may occur if outlet pressure exceeds these values.

**MARK 630 HIGH PRESSURE REGULATOR**

**TABLE 3: HIGH PRESSURE REGULATOR FLOW CAPACITIES (SCFH OF 0.6 SPECIFIC GRAVITY NATURAL GAS; BASED ON 20% DROOP)**

Outlet Pressure Range, psig	Inlet Pressure (psig)	Outlet Pressure (psig)	Orifice Diameter (Inches)				
			1/8	3/16	1/4	3/8	1/2
27-50	60	50	900	2000	3100	5200	8100
	75		1300	2800	3800	7200	10000
	100		1700	3500	5700	10500	13000
	150		2600	5700	8700	13000	17000
	200		3500	7800	11000	16000	19000
	300		5300	10500	14000	20000	23000
	400		6900	13000	17000	23000	—
	550		9600	16000	20000	26000	—
	600		9800	17000	21000	—	—
	1050		17000	23000	27000	—	—
1500	19000	25000	—	—	—		
46-95	60	50	800	1500	2400	4300	6400
	75		1200	2100	3100	5500	8000
	100		1500	3100	4200	7500	10000
	150		2400	4500	6700	11000	14000
	200		3400	6600	9400	14000	17000
	300		5200	8900	11000	16000	20000
	400		6800	11000	15000	20000	—
	550		9500	13000	17000	23000	—
	600		9800	14000	19000	—	—
	1050		14000	19000	22000	—	—
1500	18000	24000	—	—	—		
46-95	100	75	1700	3200	5000	8000	13000
	125		2200	4300	6700	10000	15000
	200		3500	7300	10000	16000	22000
	250		4400	9400	13000	19000	24000
	325		5700	11000	16000	23000	27000
	400		7100	14000	19000	27000	—
	575		9700	18000	23000	30000	—
	600		9900	19000	25000	—	—
	1075		18000	27000	32000	—	—
	1500		23000	32000	—	—	—
90-150	125	100	2000	3600	5500	9200	13000
	150		2500	4600	6800	11000	16000
	200		3600	6600	9400	13000	22000
	250		4400	8500	11000	18000	26000
	300		5300	9800	14000	21000	30000
	350		6100	10000	16000	25000	32000
	400		7000	13000	18000	27000	—
	600		9500	18000	23000	35000	—
	1100		19500	28000	35000	—	—
	1500		25000	35000	—	—	—

To determine the equivalent capacities for other gases, multiply table value by 0.775 for air; 0.789 for nitrogen; 0.628 for propane; 0.548 for butane.

**MARK 630 HIGH PRESSURE REGULATOR**

**TABLE 3: HIGH PRESSURE REGULATOR FLOW CAPACITIES (SCFH OF 0.6 SPECIFIC GRAVITY NATURAL GAS; BASED ON 20% DROOP) (CONT'D)**

Outlet Pressure Range, (psig)	Inlet Pressure (psig)	Outlet Pressure (psig)	Orifice Diameter (Inches)				
			1/8	3/16	1/4	3/8	1/2
90-150	150	125	2400	4600	6700	11000	17000
	200		3500	6800	10000	15000	23000
	250		4300	8900	12000	19000	29000
	300		5200	10000	15000	25000	34000
	375		6600	13000	18500	28000	39000
	400		7300	14500	19000	29000	—
	500		7900	15000	25000	36000	—
	625		10000	22000	29000	41000	—
90-150	1125	150	18000	33000	42000	—	—
	1500		26000	43000	—	—	—
	200		3400	6800	10000	16000	26000
	250		4400	8800	13000	20000	32000
	300		5300	10000	15000	24000	35000
	400		7100	14000	22000	34000	42000
	450		7700	17000	24000	36000	—
	650		9000	24000	33000	49000	—
150-200	800	150	13000	29000	38000	—	—
	1150		20000	38000	49000	—	—
	1500		26000	47000	—	—	—
	200		3400	6200	9300	16000	24000
	250		4300	8800	12000	20000	27000
	300		5300	10000	15000	24000	30000
	400		7100	14000	21000	32000	38000
	450		7600	15000	24000	36000	—
150-200	650	200	9000	21000	33000	48000	—
	800		13000	27000	37000	—	—
	1150		19500	34000	49000	—	—
	1500		26000	44000	—	—	—
	250		4200	8300	12000	20000	30000
	300		5200	10000	16000	25000	35000
	450		7800	16000	26000	43000	50000
	600		9500	22000	34000	55000	—
150-200	700	200	11000	25000	40000	61000	—
	800		13000	30000	43000	—	—
	1000		16000	37000	50000	—	—
	1200		20000	41000	59000	—	—
	1500		26000	53000	—	—	—

To determine the equivalent capacities for other gases, multiply table value by 0.775 for air; 0.789 for nitrogen; 0.628 for propane; 0.548 for butane.

**MARK 630 HIGH PRESSURE REGULATOR**

**TABLE 3: HIGH PRESSURE REGULATOR FLOW CAPACITIES (SCFH OF 0.6 SPECIFIC GRAVITY NATURAL GAS; BASED ON 20% DROOP) (CONT'D)**

Outlet Pressure Range, psig	Inlet Pressure (psig)	Outlet Pressure (psig)	Orifice Diameter (Inches)				
			1/8	3/16	1/4	3/8	1/2
200-275	250	200	4200	8200	11000	20000	29000
	300		5200	10000	14500	25000	35000
	450		7700	16000	24000	40000	50000
	600		9500	22000	31000	51000	—
	700		11000	25000	35000	55000	—
	800		13000	29000	42000	—	—
	1000		16000	36000	50000	—	—
	1200		19000	41000	55000	—	—
200-275	1500	250	26000	51000	—	—	—
	300		4900	9000	15000	28000	42000
	400		7000	14000	23000	40000	56000
	500		8500	18000	29000	51000	65000
	600		9500	22000	34000	59000	—
	750		12500	28000	44000	69000	—
	1000		16000	39000	58000	—	—
	1250		21000	49000	69000	—	—
200-275	1500	275	26000	59000	—	—	—
	300		4700	9000	15000	28000	39000
	400		6900	14000	25000	40000	54000
	525		8600	18000	35000	68000	94000
	775		11000	28000	51000	95000	—
	1000		16000	39000	67000	—	—
	1275		21000	50000	87000	—	—
	1500		26000	60000	—	—	—

To determine the equivalent capacities for other gases, multiply table value by 0.775 for air; 0.789 for nitrogen; 0.628 for propane; 0.548 for butane.

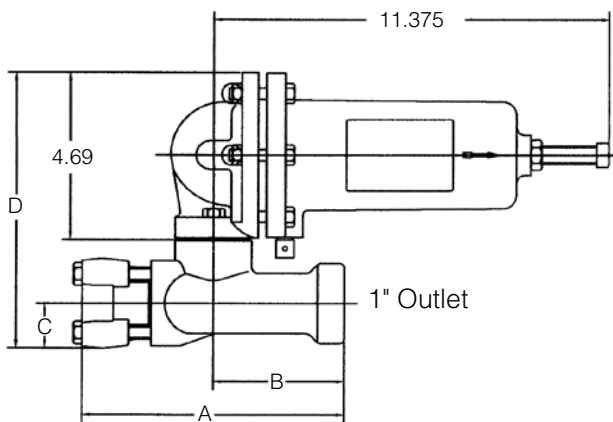
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**TABLE 3: HIGH PRESSURE REGULATOR FLOW CAPACITIES (SCFH OF 0.6 SPECIFIC GRAVITY NATURAL GAS; BASED ON 20% DROOP) (CONT'D)**

Outlet Pressure Range, (psig)	Inlet Pressure (psig)	Outlet Pressure (psig)	Orifice Diameter (Inches)				
			1/8	3/16	1/4	3/8	1/2
275-500	300	275	4500	7500	10000	20000	31000
	400		6600	12000	16000	31000	43000
	525		8600	16000	21000	39000	56000
	775		11000	24000	32000	55000	—
	1000		17000	32000	43000	—	—
	1275		21000	40000	53000	—	—
275-500	1500	300	26000	46000	—	—	—
	400		6600	11000	16000	31000	42000
	550		9700	18000	23000	44000	63000
	600		9900	19000	26000	48000	—
	700		11000	23000	30000	54000	—
	800		13000	26000	35000	61000	—
	900		15000	29000	39000	—	—
1300	22000	43000	58000	—	—		
1500	26000	49000	—	—	—		
275-500	500	400	8300	16000	24000	44000	62000
	650		10000	24000	33000	61000	86000
	800		13000	30000	41000	76000	—
	900		15000	34000	49000	85000	—
	1000		17000	38000	54000	—	—
	1200		20000	46000	63000	—	—
	1400		24000	55000	76000	—	—
	1500		26000	60000	—	—	—
275-500	550	500	8700	16000	26000	50000	77000
	750		12000	28000	40000	78000	100000
	900		15000	34000	52000	92000	—
	1000		17000	39000	60000	100000	—
	1500		26000	59000	72000	—	—

To determine the equivalent capacities for other gases, multiply table value by 0.775 for air; 0.789 for nitrogen; 0.628 for propane; 0.548 for butane.

**DIMENSIONAL DATA**



**GENERAL DIMENSIONS**

Size	A	B	C	D
1"	7 3/8	3 11/16	1 3/16	7 5/8
2"	7 7/8	3 15/16	2	8 7/16

**OVERPRESSURE PROTECTION**

As is true with many regulators, the Mark 630 Series regulator has an outlet pressure rating that is lower than the inlet pressure rating. Overpressure protection is needed to avoid overpressure if the actual inlet pressure can exceed the outlet pressure rating.

**ORDERING SCHEMATIC**

To specify a MK630 High Pressure Regulator, build a model number by making a selection from each category in the product Designator Coding System below.

Model #	—	Size	/	1	2	3	4	5	6	7

Model	
630	Model

4	Options	
N	NACE*	
O	Other (Specify)	

Size	
100	1"
200	2"

5 & 6	Seat Ring Orifice	
12	1/8"	
18	3/16"	
25	1/4"	
38	3/8"	
50	1/2"	

1 & 2	Body Material	
CS	Carbon Steel (LCC)	
DI	Ductile Iron	

7	Trim Material	
6	316 SS*	

3	Outlet Pressure Range	
1	27 to 50 psig	
2	46 to 95 psig	
3	90 to 150 psig	
4	150 to 200 psig	
5	200 to 275 psig	
6	275 to 500 psig	

\* Standard unit is NACE compatible

