Fisher™ GX Bulletin Supplement

Use this bulletin supplement in conjunction with Bulletin 51.1:GX, Fisher GX Control Valve and Actuator System, <u>D103171X012</u>. This supplement provides additional information for the Fisher GX control valve and actuator.

The standard GX actuator comes with a supply pressure range of 4 to 6 bar (58 to 87 psi) for both air-to-open (ATO) and air-to-close (ATC) configurations. By selecting the appropriate option, the GX actuator will operate with a minimum supply pressure of 3 bar (44 psi) and 2 bar (29 psi) at the expense of maximum allowable shutoff pressure. Note: These options do not apply to the size 1200 actuator which operates on a standard pressure range of 3 to 6 bar.

The primary focus of this bulletin is to provide maximum pressure drop tables for the corresponding GX constructions.

Each of these tables includes air-to-open (standard) and air-to-close (optional) actuator configurations for varying supply pressure ranges, as well as the maximum actuator air supply pressure and associated pressure drop.

Tables are also provided for shutoff classification capability. These tables immediately follow their respective constructions. See table 1 for an index of these tables.

Table 1. Index to Trim Tables

Stem Material	Bonnet Style	Max Pressure Drop and Max Supply Pressure	Shutoff Capabilities
	Standard	Table 2	Table 3
High Strength	Extension / Bellows	Table 4	Table 5
Low Strongth	Standard	Table 6	Table 7
Low Strength	Bellows	Table 8	Table 9

High Strength Stem Material: S31603, S20910, N05500

Low Strength Stem Material: N06022, S31803, N10675



Fisher GX Control Valve, Actuator, and FIELDVUE™ DVC2000 Digital Valve Controller





Table 2 contains information regarding the maximum pressure drop capability of the GX with a standard bonnet and S31603 trim. Maximum pressure drop is

calculated at the maximum supply pressure for each construction. The allowable leakage classes are given in table 3.

Table 2. Maximum Pressure Drops with Standard Bonnet Construction and High Strength Stem

					Air to Open					Air to Close				
Valve	Port Size	Max Travel	Actua- tor	ENVIRO-					pply pressu				Max Press	ure Limits
Size			con- struc-	SEAL™ Packing	Max △P	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	ΔP	Supply
	mm	mm	tion		bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)
			225	ULF			.7							
			2Bar 225	PTFE ULF	51.7	(75	50)	51 (75			51.7		51.7	6
	4.8	20	3Bar	PTFE	(750)	N,	/A				(750)		(750)	(87)
DN15 to 25			225 4Bar	ULF PTFE				N,	/A					
(NPS 1/2 to 1)			225	ULF		51								
101)			2Bar 225	PTFE ULF	51.7	(75	50)	51 (75			51.7		51.7	6
	9.5	20	3Bar	PTFE	(750)	N,	/A				(750)		(750)	(87)
			225 4Bar	ULF PTFE		,	,	N,	/A					
			225	ULF		51								
DN20 to 40			2Bar 225	PTFE ULF	51.7	(75	50)	51 (75			51.7		51.7	6
(NPS 3/4	14	20	3Bar	PTFE	(750)	N,	/A				(750)		(750)	(87)
to 1-1/2)			225 4Bar	ULF PTFE				N,	/A					
			225	ULF	27.3 (396)	39.2 (569)	51.7							
DN25			2Bar	PTFE	42.0 (609)	51.7 (750)	(750)	51	.7					
to 50 (NPS 1 to	22 ⁽¹⁾	20	225	ULF	43.4 (629)			(75			51.7 (750)		51.7 (750)	6 (87)
2)			3Bar	PTFE	51.7 (750)	N,	/A				(/			(*)
			225 4Bar	ULF PTFE	51.7 (750)			N,	/A					
				ULF	10.2 (148)	14.6 (212)	25.3 (367)	35.9 (521)	45.3 (657)					
			225 2Bar	PTFE	15.7 (750)	20.1 (292)	30.8 (447)	41.4 (600)	50.8 (737)	51.7 (750)				
			225	ULF	16.2 (235)	(232)	()	25.9 (376)	35.3 (512)	47.2 (685)	51	1.7	51.7	6
			3Bar	PTFE	21.7 (315)			31.4 (455)	40.8 (592)	51.7 (750)		50)	(750)	(87)
DN40 to 50	(2)		225	ULF	28.3 (410)	N,	/A			47.2 (685)				
(NPS 1-1/2 to 2)	36 ⁽¹⁾	20	4Bar	PTFE	33.7 (489)			N,	/A	51.7 (750)				
			750	ULF	48.0 (696)	33.7 (489)	51.7							
			2Bar	PTFE	51.7 (750)	39.2 (569)	(750)					51.7 (750)	3.5 (51)	
			750 3Bar	ULF PTFE	-4-		•	·	•					
			750	ULF	51.7 (750)	N,	/A	NI.	ΙΔ				N,	Ι
			4Bar	PTFE				N,	<u> </u>				IN,	^

Table 2. Maximum Pressure Drops with Standard Bonnet Construction and High Strength Stem (continued)

Valve Size Port Size Travel Travel tor construction mm mm mm ENVIRO-SEAL Packing bar (psi) (psi) (psi) (psi) (psi) (225)	3 Bar (44 psi) bar (psi) 22.0 (319) 25.4 (368) 15.9 (231)	3.44 Bar (50 psi) bar (psi) 27.8 (403) 31.1 (451) 21.6	4 Bar (58 psi) bar (psi) 35.1 (509) 38.4	5 Bar (72 psi) bar (psi) 48.1 (698)	6 Bar (87 psi) bar (psi)	Max Press △P bar	Supply bar
Size Construction SEAL Packing Max \(\text{DP is} \) 2 Bar (29 psi) (36 psi)	(44 psi) bar (psi) 22.0 (319) 25.4 (368) 15.9 (231)	(50 psi) bar (psi) 27.8 (403) 31.1 (451)	(58 psi) bar (psi) 35.1 (509)	(72 psi) bar (psi) 48.1	(87 psi) bar		
mm mm ULF 9.0 (13.1) (225) 2Bar PTFE 12.3 (17.8) (273) 225 ULF 9.9 (144)	(psi) 22.0 (319) 25.4 (368) 15.9 (231)	(psi) 27.8 (403) 31.1 (451)	(psi) 35.1 (509)	(psi) 48.1		bar	bar
225 2Bar PTFE (131) (225) 12.3 18.8 (178) (273) 225 ULF 9.9 (144)	(319) 25.4 (368) 15.9 (231)	(403) 31.1 (451)	(509)			(psi)	(psi)
2Bar PTFE 12.3 18.8 (178) (273) ULF 9.9 (144)	(368) 15.9 (231)	(451)	38.4				
225 ULF 9.9 (144)	15.9 (231)		(557)	51.5 (747)			
		(313)	28.9 (419)	42.0 (609)	51.7	51.7	6
3Bar PTFE 13.3 (193)	19.2 (278)	25.0 (363)	32.3 (468)	45.3 (657)	(750)	(750)	(87)
ULF 17.3 (251) N/A	Į.		28.9 (419)	42.0 (609)	=		
4Bar PTFE 20.7	N/	Α	32.3 (468)	45.3 (657)			
(NPS 2) 46 ⁽¹⁾ 20 ULF 29.4 20.7 42.4 (750 (300) (615)			, ,	, ,	<u> </u>		
2Bar PTFE 32.8 24.0 45.8 (476) (348) (664)	51.	7				51.7	3.5
ULF 46.5 750 (674)		(50)				(750)	(51)
3Bar PTFE 49.9							
750 ULF 46.5 (674) N/A							
48ar PTFE 49.9 (724)	N/.	A				N,	/A
750 ULF 46.4 32.1 (673) (466) 51.7							
2Bar PTFE 51.1 36.8 (750)	51. (75			51.7		51.7	6
(NPS 3) 36 20 750 ULF	(,,	,		(750)		(750)	(87)
3Bar PTFE 51.7 N/A							
750 ULF (750) 48ar PTFE	N/	'A					
750 ULF 28.4 19.7 41.5 (286) (602)							
2Bar PTFE 31.3 22.6 44.3 (454) (328) (643)	51.						
DN80	(75	50)		51.7		51.7	6
(NPS 3 to 40 20 3Bar PTFE 48.4 (702) N/A				(750)		(750)	(87)
750 ULF 45.5 (660)	N/	Δ					
4Bar PTFE 48.4 (702)	INJ.						
750 ULF 51.7 2Bar PTFE (750)	51.7						
DN80 70 20 750 ULF 51.7 (NPS 3) Bal 20 3Bar PTFE (750)	(75			51.7 (750)		51.7 (750)	6 (87)
750 ULF 4Bar PTFE	N/	'A		. ,			

Table 2. Maximum Pressure Drops with Standard Bonnet Construction and High Strength Stem (continued)

				Diops w	Air to Open					Air to Close				
Valve	Port Size	Max Travel	Actua- tor	ENVIRO-				Su	ipply pressu	re			Max Press	sure Limits
Size	Size	ilavei	con- struc-	SEAL Packing	Max △P	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	ΔΡ	Supply
	mm	mm	tion		bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)
				ULF	11.5	17.2	26.6	35.9	44.2	u · /	u · /	u · /	u · /	u · /
			750 2Bar	OLI	(167) 12.8	(249) 18.4	(386) 27.8	(521) 37.2	(641) 45.4					
			ZDdl	PTFE	(186)	(267)	(403)	(540)	(658)	51.7				
				ULF	23.0			35.9	44.2	(750)				
	70	40	750 3Bar		(334)			(521) 37.2	(641) 45.4		51 (75		51.7 (750)	6 (87)
			Jbai	PTFE	(351)	N/A	N/A	(540)	(658)		(/-	,,,	(750)	(07)
				ULF	31.9 (463)	IN/A	IN/A			36.9 (535)				
			750 4Bar		33.1			N/A	N/A	38.2				
				PTFE	(480)					(554)				
			750	ULF		46.8 (679)	F1 7							
DN80			750 2Bar	PTFE	51.7 (750) 51.7 (750) (750)		54.7		F4.7					
-100 (NPS 3 to	-100 90 20 (NPS 3 to Bal 4)	750	ULF	(750)		l	(/-	50)		51.7 (750)		51.7 (750)	6 (87)	
4)			3Bar	PTFE	, ,	N,	/A						` ´	, ,
			750 4Bar	ULF PTFE				N,	/A					
			4Ddl		7.0	10.4	16.1	21.7	26.7	33.1	44.4			
			750	ULF	(102)	(151)	(234)	(315)	(387)	(480)	(644)			
			2Bar	PTFE	7.7 (112)	11.2 (162)	16.8 (244)	22.5 (326)	27.5 (399)	33.8 (490)	45.2 (656)	51.7	51.7	
				ULF	13.9	(11=)	(= ,	21.7	26.7	33.1	44.4	(750)	(750)	
	90	40	750	OLF	(202)			(315)	(387)	(480)	(644)			6
			3Bar	PTFE	14.7 (213)			22.5 (326)	27.5 (399)	33.8 (490)	45.2 (656)			(87)
				ULF	19.3	N,	/A		1	22.3	33.7	45.0	45.0	1
			750 4Bar		(280)			N,	/A	(323)	(489) 34.4	(653) 45.7	(653) 45.7	
			4001	PTFE	(290)					(335)	(499)	(663)	(663)	
				ULF	26.4			18.9	26.9	37.2				
	90	40	1200		(383) 27.8			(274) 20.3	(390) 28.4	(540) 38.7			F1.7	4.9 (71)
				PTFE	(403)			(294)	(412)	(561)			51.7 (750)	(,,)
DN150	136	60	1200	ULF	51.7	N,	/A	51		51				
(NPS 6)	Bal	-		PTFE	(750) 8.4			4.6	50) 8.1	(75 12.5	20.3		23.5	5.4
	136	60	1200	ULF	(122)			(67)	(117)	(181)	(294)		(341)	(78)
	136	60	1200	PTFE	9.1			5.2	8.7	13.1	20.9		24.1]
1. Cavitro	 ™ I trim	limited to 27	.6 bar (400 i	psid) maximur	(132)	op and 4 har (58 psi) minim	(75) um supply pr	(126) essure.	(190)	(303)		(350)	<u> </u>
i. cavitio			.5 501 (-100	polaj maximu	p. coodic dit	op and a bar (20 h21/ 11111111	а зарріў рі	essure.					

Table 3. Shutoff Classification Capability for Standard Bonnet Construction and High Strength Stem⁽¹⁾

Tubic 5.	I	T Classii		Cupubiii	Air to Open	laara bom	net Constr	uction and	Air to Close	engen see	111, ,	
	Port	Max	Actua- tor	ENVIRO-				9	Supply pressure	<u> </u>		
Valve Size	Size	Travel	con- struc- tion	SEAL Packing	Shutoff	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)
	mm	mm			n () () ((2)	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff
			225	ULF	IV,V,VI ⁽²⁾	IV,	V,VI					
			2Bar	PTFE ULF				IV,\	/,VI			
	4.8	20	225 3Bar	PTFE	11/1/1/1						IV,V,VI	
				ULF	IV,V,VI	N	/A					
DN15 to 25			225 4Bar	PTFE				N	/A			
(NPS 1/2 to			225	ULF	IV,V ⁽²⁾	(-)	IV,V,VI ⁽²⁾					
1)			2Bar	PTFE		IV,V,VI ⁽²⁾	IV,V,VI	IV,V,VI				
			225	ULF	IV,V,VI ⁽²⁾			IV,V,VI ⁽²⁾	IV,V,VI			
	9.5	20	3Bar	PTFE				IV,V,VI			IV,V,VI	
			225	ULF	11/1/1/1	N	/A	NI NI	1.0			
			4Bar	PTFE	IV,V,VI				/A			
			225	ULF	IV	IV,V ⁽²⁾	IV,V,VI ⁽²⁾	IV,V,VI ⁽²⁾	IV,V,VI			
DN20			2Bar	PTFE	IV,V ⁽²⁾	10,00	10,0,010	IV,V,VI	10,0,01			
to 40	14	20	225	ULF	10,0			IV V	,VI ⁽²⁾		IV,V,VI	
(NPS 3/4 to 1-1/2)		20	3Bar	PTFE		N	/A	,.			,.,.	
1-1/2)			225	ULF	IV,V,VI ⁽²⁾		1	N	/A			
			4Bar	PTFE		0.414		'	' 			
			225	ULF		IV,VI	IV,V ⁽²⁾ ,VI	IV,V,VI				
DN25			2Bar	PTFE ULF	IV,VI	IV,V ⁽²⁾ ,VI			IV,V,VI			
to 50	22	20	225 3Bar	PTFE				IV,V ⁽²⁾ ,VI			IV,V,VI	
(NPS 1 to 2				ULF	IV,V ⁽²⁾ ,VI	N	/A					
			225 4Bar	PTFE	IV,V,VI			N	/A			
			225	ULF	,.,.	IV ⁽²⁾ ,VI	IV,VI					
			2Bar	PTFE	IV ⁽²⁾ ,VI	IV,VI	IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI	(-)	IV,V,VI		
			225	ULF	,	,		IV,VI	IV,V ⁽²⁾ ,VI			
			3Bar	PTFE				IV,V ⁽²⁾ ,VI		(3)	IV,\	/,VI
DN40			225	ULF	IV,VI	N	/A		1.0	IV,V ⁽²⁾ ,VI		
to 50	20	20	4Bar	PTFE	IV,V ⁽²⁾ ,VI			N,	/A			
(NPS 1-1/2 to	36	20	750	ULF	IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI	IV,V,VI					
2)			2Bar	PTFE	10,01-7,01	10,01-7,01	10,0,01	IV V	/,VI			
			750	ULF				10,	v, v i			
			3Bar	PTFE	IV,V,VI	l N	/A					
			750	ULF	,.,		1	N	/A			
			4Bar	PTFE					' I		1	1
			225	ULF		IV ⁽²⁾ ,VI	IV,VI	IV,VI	IV,V ⁽²⁾ ,VI		IV,V,VI	
			2Bar	PTFE ULF				IV,V ⁽²⁾ ,VI	IV,VI		IV,V ⁽²⁾ ,VI	
			225 3Bar	PTFE	IV ⁽²⁾ ,VI			IV,VI	IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI	IV,V,VI	IV,V,VI
				ULF		N	/A	N/A	10,017,01		IV,V ⁽²⁾ ,VI	
DN50			225 4Bar	PTFE	IV,VI				/A		IV,V,VI	
(NPS 2)	46	20	750	ULF	(2)	IV,VI	IV,V ⁽²⁾ ,VI ⁽²⁾				1 ,,,,,	l .
' '			2Bar	PTFE	IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI	IV,V,VI					
			750	ULF			1	IV,\	/,VI			
			3Bar	PTFE	11/1/1/1		1.4					
			750	ULF	IV,V,VI	N	/A	N.I.	ΙΔ			
		4Bar	PTFE				l N	/A				

Table 3. Shutoff Classification Capability for Standard Bonnet Construction and High Strength Stem⁽¹⁾ (continued)

			Actua-		Air to Open				Air to Close				
Valve	Port	Max	tor	ENVIRO-					upply pressur				
Size	Size	Travel	con- struc-	SEAL Packing	Shutoff	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	
	mm	mm	tion	rucking		Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	
			750	ULF	IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI	0.43.43.4						
			2Bar	PTFE	10,0(2),01	IV,V(=),VI	IV,V,VI	N/A	/ \ / !				
DN80	36	20	750	ULF			•	· IV,\	′,VI		11/1/1/1		
(NPS 3)	30	20	3Bar	PTFE	IV,V,VI	N	/A				IV,V,VI		
			750	ULF	10,0,01	IN	Į^	N,	'Δ				
			4Bar	PTFE				14)	7.				
			750	ULF	IV,V ⁽²⁾ ,VI	IV,VI	IV,V ⁽²⁾ ,VI						
DN80			2Bar	PTFE	,. ,	,	IV,V,VI	IV,\	/.VI				
-100	46	20	750	ULF					•••		IV,V,VI		
(NPS 3 to 4)			3Bar	PTFE	IV,V,VI	N	/A				, ,		
			750	ULF			,	N,	'A				
			4Bar	PTFE				,					
			750	ULF		I	V						
			2Bar	PTFE				IN	/				
DN80 (NPS 3)	70 Bal	20	750 3Bar	ULF PTFE	IV						IV		
(141 3 3)	Dai			ULF	-	N	/A						
			750 4Bar	PTFE				N,	'A				
			750	ULF			(=)						
			2Bar	PTFE	IV,VI	IV,V	⁽²⁾ ,VI						
DN80	70	40	750	ULF	n () (2)) (IV,\	/,VI		0.73737		
-100 (NPS 3 to 4)	70	40	3Bar	PTFE	- IV,V ⁽²⁾ ,VI	N	14				IV,V,VI		
(141 3 3 10 4)			750	ULF	IV,V,VI	IN	/A	N,	'Λ				
			4Bar	PTFE	10,0,01			IN	Α				
			750	ULF		IV(2)	IV						
			2Bar	PTFE				IN	/				
	90	20	750	ULF	IV						IV		
	Bal		3Bar	PTFE		N	/A			_			
			750 4Bar	ULF PTFE				N,	'A				
DN100 (NPS 4)			-	ULF									
(14131)			750 2Bar	PTFE	IV ⁽²⁾ ,VI	IV,VI	IV,V ⁽²⁾ ,VI						
			750	ULF				IV,V ⁽²⁾ ,VI	IV,	V,VI			
	90	40	3Bar	PTFE	(2)						IV,	/,VI	
			750	ULF	IV,V ⁽²⁾ ,VI	N	/A			(2)			
			4Bar	PTFE				N,	Α	IV,V ⁽²⁾ ,VI			
	90	40	1200	ULF	IV,V,VI			IV,V ⁽²⁾ ,VI	N/	./ \/I			
	90	40	1200	PTFE	10,0,01			10,01-7,01	IV,	V,VI			
DN150	136	60	1200	ULF	IV	N	/A	IV ⁽²⁾		IV			
(NPS 6)	Bal	00	1200	PTFE	IV	N/A			1 V				
	136	60	1200	ULF	IV,VI			VI	IV,VI	IV,V ⁽²⁾ ,VI	IV,V,VI		
			1	PTFE	,			IV ⁽²⁾ ,VI	,	.,. ,	,.,.		

Table 4 contains information regarding the maximum pressure drop capability of the GX with an extension or bellows bonnet and S31603 trim. Maximum pressure

drop is calculated at the maximum supply pressure for each construction. The allowable leakage classes are given in table 5.

Table 4. Maximum Pressure Drops with Extension/Bellows Bonnet Construction with High Strength Stem

					Air to Open	Open Air to close								
Valve	Port Size	Max Travel	Actua- tor	ENVIRO-				Su	pply pressu	re			Max Press	ure Limits
Size	Size	iiavei	con- struc-	SEAL Packing	Max △P	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	ΔP	Supply
	mm	mm	tion		bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)
			225 2Bar	ULF PTFE		51 (75		E1	7					5.6 (81)
	4.8	20	225	ULF	51.7	(/-		51 (75		51			51.7	(01)
DN15			3Bar 225	PTFE ULF	(750)	N	/A			(75	50)	51.7 (750)	(750)	6 (87)
to 25 (NPS 1/2			4Bar 225	PTFE ULF			7	N,	/A					5.6
to 1)			2Bar	PTFE		51 (75		51						(81)
	9.5	20	225 3Bar	ULF PTFE	51.7 (750)			(75	50)	51 (75		51.7	51.7 (750)	6
			225 4Bar	ULF PTFE		N _i	/A	N,	/A			(750)		(87)
			225	ULF		51.7 (750) 51.7						5.6		
DN20 to 40	1.4	20	2Bar 225	PTFE ULF	51.7	(75	50)	51.7 (750)		51	.7		51.7	(81)
(NPS 3/4 to 1-1/2)	14	20	3Bar 225	PTFE ULF	(750)	N	/A			(75	50)	51.7 (750)	(750)	6 (87)
			4Bar	PTFE			ı	N,	/A			(750)		(07)
			225	ULF	27.3 (396)	39.2 (569)	51.7							5.6
DN25			2Bar	PTFE	42.0 (609)	51.7 (750)	(750)	51			_			(81)
to 50 (NPS 1 to 2	22	20	225	ULF	43.4 (629)			(/-	50)	51 (75			51.7 (750)	
			3Bar 225	PTFE ULF	51.7	N	/A					51.7 (750)		6 (87)
			4Bar	PTFE	(750)		1	N,			ı			
			225	ULF	10.2 (148)	14.6 (212)	25.3 (367)	35.9 (521)	45.3 (657)	51.7				5.6
			2Bar	PTFE	15.7 (228)	20.1 (292)	30.8 (447)	41.4 (600)	50.8 (737)	(750)				(81)
			225	ULF	16.2 (235)			25.9 (376)	35.3 (512)	47.2 (685)	51.7		51.7	
			3Bar	PTFE	21.7 (315)			31.4 (455)	40.8 (592)	51.7 (750)	(750)	51.7	(750)	6
DN40 to 50			225	ULF	28.3 (410)	N	/A		I	47.2 (685)		(750)		(87)
(NPS 1-1/2 to 2)	36	20	4Bar	PTFE	33.7 (489)			N,	/A	51.7 (750)				
[750	ULF	48.0 (696)	33.7 (489)	51.7			, , , ,	I	I	51.7	2.8
			2Bar	PTFE	(/	39.2 (569)	(750)						(750)	(41)
			750	ULF	51.7	(505)	l .	-						<u> </u>
			3Bar 750	PTFE ULF	(750)	N	N/A N/A	IΔ				N,	/A	
			4Bar	PTFE				IN,	,,,					

 $\label{thm:continued} \textbf{Table 4. Maximum Pressure Drops with Extension/Bellows Bonnet Construction with High Strength Stem (continued)}$

(corrent			Actus	Air to Open Air to Close										
Valve	Port Size	Max Travel	Actua- tor	ENVIRO-				Su	ipply pressu	ire			Max Press	ure Limits
Size	Size	nuvei	con- struc-	SEAL Packing	Max △P	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	ΔP	Supply
	mm	mm	tion		bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)
			225	ULF		9.0 (131)	15.5 (225)	22.0 (319)	27.8 (403)	35.1 (509)	48.1 (698)			5.6
			2Bar	PTFE		12.3 (178)	18.8 (273)	25.4 (368)	31.1 (451)	38.4 (557)	51.5 (747)			(81)
			225	ULF	9.9 (144)		1	15.9 (231)	21.6 (313)	28.9 (419)	42.0 (609)		51.7	
			3Bar	PTFE	13.3 (193)			19.2 (278)	25.0 (363)	32.3 (468)	45.3 (657)	51.7	(750)	6
			225	ULF	17.3 (251)	N	/A	(270)	(303)	28.9 (419)	42.0 (609)	(750)		(87)
			225 4Bar	PTFE	20.7 (300)			N	/A	32.3 (468)	45.3 (657)	-		
DN50 (NPS 2)	46	20		ULF	29.4	20.7	42.4			(408)	(037)			
			750 2Bar	PTFE	(426) 32.8	(300)	(615) 45.8						51.7 (750)	2.8 (41)
				ULF	(476) 46.5	(348)	(664)	-						
			750 3Bar	PTFE	(674) 49.9									
				ULF	(724) 46.5	N	/A					N,	/A	
			750 4Bar	PTFE	(674) 49.9			N	/A					
					(724) 46.4	32.1								
			750 2Bar	ULF	(673) 51.1	(466) 36.8	51.7 (750)	51	1.7				51.7	3.9
DN80 (NPS 3)	36	20	750	PTFE ULF	(741)	(534)	, ,		50)				(750)	(57)
(1453)			3Bar	PTFE	51.7	N	/A							
			750 4Bar	ULF PTFE	(750)			N	/A				N,	/A
			750	ULF	28.4 (412)	19.7 (286)	41.5 (602)							
			2Bar	PTFE	31.3 (454)	22.6 (328)	44.3 (643)	51	1.7				51.7	3.9
DN80 -100	46	20	750	ULF	45.5 (660)			(7!	50)				(750)	(57)
(NPS 3 to 4)	46	20	3Bar	PTFE	48.4 (702)]								
			750	ULF	45.5 (660)	N	/A							
			4Bar	PTFE	48.4 (702)			N ₁	/A				N,	/A
			750 2Bar	ULF PTFE			1.7 50)		1.7		E1 7	2.0		
DN80	70	20	750	ULF	51.7	(7)	/		1.7 50)				51.7 (750)	3.9 (57)
(NPS 3)	Bal		3Bar 750	PTFE ULF	(750)	N	/A	NI	/A	_			N,	 /A
			4Bar	PTFE				N/A						

Table 4. Maximum Pressure Drops with Extension/Bellows Bonnet Construction with High Strength Stem (continued)

			Actua-		Air to Open					Air to Close				
Valve	Port Size	Max Travel	tor	ENVIRO-					ipply pressu				Max Press	ure Limits
Size			con- struc- tion	SEAL Packing	Max △P	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	ΔP	Supply
	mm	mm	tion		bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)
			750	ULF	11.5 (167)	17.2 (249)	26.6 (386)	35.9 (521)	44.2 (641)				45.1 (654)	
			2Bar	PTFE	12.8 (186)	18.4 (267)	27.8 (403)	37.2 (540)	45.4 (658)				46.4 (673)	3.5
DN80 -100			750	ULF	23.0 (334)		ı	35.9 (521)	44.2 (641)				45.1 (654)	(51)
(NPS 3 to 4)	70	40	3Bar	PTFE	24.2 (351)			37.2 (540)	45.4 (658)		-		46.4 (673)	
		750	ULF	31.9 (463)	N,	/A			36.9 (535)			44.4 (644)	4.4	
			4Bar	PTFE	33.1 (480)			N,	/A	38.2 (554)			45.6 (661)	(64)
			750	ULF		46.8 (679)	51.7							
	90		2Bar	PTFE	51.7	51.7 (750)	(750)		1.7 50)				51.7 (750)	3.9 (57)
	Bal	20	750 3Bar	ULF PTFE	(750)									
			750 4Bar	ULF PTFE		N	/A	N	/A				N	/A
DN100			750	ULF	7.0 (102)	10.4 (151)	16.1 (234)	21.7 (315)	26.7 (387)				27.3 (396)	
(NPS 4)			2Bar	PTFE	7.7 (112)	11.2 (162)	16.8 (244)	22.5 (326)	27.5 (399)				28.0 (406)	3.5
	90	40	750	ULF	13.9 (202)		1	21.7 (315)	26.7 (387)				27.3 (396)	(51)
		40	3Bar	PTFE	14.7 (213)		14	22.5 (326)	27.5 (399)		-		28.0 (406)	
			750	ULF	19.3 (280)	N,	ĮA.	N.	/A	22.3 (323)			26.9 (390)	4.4
			4Bar	PTFE	20.0 (290)			IN.	IΛ	23.1 (335)			27.6 (400)	(64)

Table 5. Shutoff Classification Capability for Extension / Bellows Bonnet Construction and High Strength Stem⁽¹⁾

Table 5.	Jiidto	ii Ciassii		Саравііі	Air to Open						crigariote	111, ,
	Port	Max	Actua- tor	ENVIRO-	7til to open			9	Supply pressur	·e		
Valve Size	Size	Travel	con- struc- tion	SEAL Packing	Shutoff	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)
	mm	mm			n (2)	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff
			225	ULF	IV,V,VI ⁽²⁾	IV,	V,VI					
			2Bar	PTFE ULF				IV,\	/,VI			
	4.8	20	225 3Bar	PTFE	IV,V,VI					IV,	V,VI	
			225	ULF	10,0,01	N	/A					IV,V,VI
DN15 to 25			4Bar	PTFE				N,	/A			
(NPS 1/2 to			225	ULF	IV,V ⁽²⁾	(2)	IV,V,VI ⁽²⁾					
1)			2Bar	PTFE		IV,V,VI ⁽²⁾	IV,V,VI	IV,V,VI				
	0.5	7.0	225	ULF	IV,V,VI ⁽²⁾		ı	IV,V,VI ⁽²⁾	IV,V,VI	n.,		
	9.5	20	3Bar	PTFE		N.	1.0	IV,V,VI		IV,	V,VI	11/1/1/1
			225	ULF	IV,V,VI	IN IN	/A	N	1.4			IV,V,VI
			4Bar	PTFE					IA .			
			225	ULF	IV	IV,V ⁽²⁾	IV,V,VI ⁽²⁾	IV,V,VI ⁽²⁾	IV,V,VI			
DN20			2Bar	PTFE	IV,V ⁽²⁾	14,4	1,,,,,,,	IV,V,VI	1,,,,,,,			
to 40	14	20	225	ULF	10,0			IV,V,	VI(2)	IV.	V,VI	
(NPS 3/4 to 1-1/2)			3Bar	PTFE	(-)	N	/A	,.,			.,	IV,V,VI
1-1/2)			225	ULF	IV,V,VI ⁽²⁾			N,	/A			
			4Bar	PTFE		D () (1	1		<u> </u>			
			225 2Bar	ULF	D () (1	IV,VI IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI	IV,V,VI				
DN25				PTFE ULF	IV,VI	10,0(=7,01			IV,V,VI			
to 50	22	20	225 3Bar	PTFE				IV,V ⁽²⁾ ,VI		IV,	V,VI	
(NPS 1 to 2			225	ULF	IV,V ⁽²⁾ ,VI	N	/A					IV,V,VI
			4Bar	PTFE	IV,V,VI			N,	/A			
			225	ULF		IV ⁽²⁾ ,VI	IV,VI	(2)				
			2Bar	PTFE	IV ⁽²⁾ ,VI	IV,VI	IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI	(3)	IV,V,VI		
			225	ULF				IV,VI	IV,V ⁽²⁾ ,VI		0.7.7.7.7	
			3Bar	PTFE	IV,VI	N.	/A	IV,V ⁽²⁾ ,VI		IV,V ⁽²⁾ ,VI	IV,V,VI	IV,V,VI
DN40			225	ULF		IN	Į A	N,	IΔ	10,0(-),01		10,0,01
to 50	36	20	4Bar	PTFE	IV,V ⁽²⁾ ,VI			IN,	/A			
(NPS 1-1/2 to	30	20	750	ULF	IV,V ⁽²⁾ ,VI ⁽²⁾	IV,V ⁽²⁾ ,VI	IV,V,VI					
2)			2Bar	PTFE	,,,,,,,,,	,,	,.,.		_			
			750	ULF								
			3Bar	PTFE	IV,V,VI	N	/A					
			750 4Bar	ULF PTFE				N,	/A			
			-	ULF				IV,VI				
			225 2Bar	PTFE		IV ⁽²⁾ ,VI	IV,VI	IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI		IV,V,VI	
			225	ULF				10,017,01	IV,VI	1	IV,V ⁽²⁾ ,VI	
			3Bar	PTFE	IV ⁽²⁾ ,VI			IV,VI	IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI	IV,V,VI	
			225	ULF		N	/A		1	1	IV,V ⁽²⁾ ,VI	IV,V,VI
DN50	4.5		4Bar	PTFE	IV,VI			N,	/A		IV,V,VI	
(NPS 2)	46	20	750	ULF	n () ((2)) "	IV,VI	IV,V ⁽²⁾ ,VI				1	1
			2Bar	PTFE	- IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI	IV,V,VI					
			750	ULF			•		- -			
			3Bar	PTFE	IV,V,VI	N.I	/A					
			750	ULF	10,0,01	l N	IΛ	N	/A]		
			4Bar	PTFE			IN,	,,,				

Table 5. Shutoff Classification Capability for Extension / Bellows Bonnet Construction and High Strength Stem⁽¹⁾ (continued)

			Actua-		Air to Open				Air to Close			
Valve	Port	Max	tor	ENVIRO-					upply pressur			
Size	Size	Travel	con- struc-	SEAL Packing	Shutoff	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)
	mm	mm	tion	racking		Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff
			750	ULF	IV,V ⁽²⁾ ,VI	IV,V ⁽²⁾ ,VI	1)/////					
			2Bar	PTFE	10,0(2),01	10,0(2),01	IV,V,VI	IV,\	/ \/I			
DN80	36	20	750	ULF				10,0	, v i			
(NPS 3)	30	20	3Bar	PTFE	IV,V,VI	N	/Δ					
			750	ULF	10,0,01	"	<i> </i>	N,	/A			
			4Bar	PTFE			7=1	147	,,			
			750	ULF	IV,V ⁽²⁾ ,VI	IV,VI	IV,V ⁽²⁾ ,VI					
DN80			2Bar	PTFE	,. ,	,	IV,V,VI	IV,\	/,VI			
-100	46	20	750	ULF				,	,			
(NPS 3 to 4)			3Bar	PTFE	IV,V,VI	N	/A					
			750	ULF	1	,		N,	/A			
			4Bar	PTFE ULF								
			750 2Bar	PTFE		ľ	V					
D1100	70			ULF				1	IV			
	DN80 70 20 Ral	750 3Bar	PTFE	IV								
(141 5 5)		750	ULF	1	N	/A						
			4Bar	PTFE				N,	/A			
			750	ULF			·->					
			2Bar	PTFE	IV,VI	IV,V	⁽²⁾ ,VI					
DN80			750	ULF	(2)			IV,\	/,VI			
-100 (NPS 3 to 4)	70	40	3Bar	PTFE	IV,V ⁽²⁾ ,VI						-	-
(14733104)			750	ULF	0.7.7.7	N	/A	N	14	07777		
			4Bar	PTFE	- IV,V,VI			N,	A	IV,V,VI		
			750	ULF		IV ⁽²⁾	IV				•	
			2Bar	PTFE		10/-	IV	1	/			
	90	20	750	ULF	IV] ''	V			
	Bal	20	3Bar	PTFE	14	N	/A					
			750	ULF			,,,,	N,	/A			
DN100			4Bar	PTFE			1	,			1	
(NPS 4)			750	ULF	IV ⁽²⁾ ,VI	IV,VI	IV,V ⁽²⁾ ,VI	VI IV,V ⁽²⁾ ,VI IV,V,VI				
			2Bar	PTFE			. ,		IV,V,VI			
	90	40	750	ULF						-		
			3Bar	PTFE	IV,V ⁽²⁾ ,VI	N	/A					
			750	ULF				N,	/A	IV,V ⁽²⁾ ,VI		
			4Bar	PTFE	rts greater than o							

^{2.} Shutoff classification not available on hard-faced trim.

Table 6 contains information regarding the maximum pressure drop capability of the GX with a standard bonnet and CW2M trim. Maximum pressure drop is

calculated at the maximum supply pressure for each construction. The allowable leakage classes are given in table 7.

Table 6. Maximum Pressure Drops with Standard Bonnet Construction and Low Strength Stem

			Actua-		Air to Open					Air to Close				
Valve	Port Size	Max Travel	tor	ENVIRO-				Su	pply pressu	re			Max Press	ure Limits
Size	3126	Havei	con- struc-	SEAL Packing	Max △P	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	ΔP	Supply
			tion	rucking	bar	bar	bar	bar	bar	bar	bar	bar	bar	bar
	mm	mm			(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
			225	ULF		51								4.1
			2Bar	PTFE ULF		(75	50)	51 (75						(59)
	4.8	20	225 3Bar	PTFE	51.7 (750)			(7-	50)	51.7 (750)			51.7 (750)	4.6
DNIIF			225	ULF	(122)	N,	/A			(123)			(122)	(67)
DN15 to 25			4Bar	PTFE				N,	/A					, ,
(NPS 1/2			225	ULF		51	.7							4.1
to 1)			2Bar	PTFE		(75	50)	51						(59)
	9.5	20	225	ULF	51.7			(75	50)	51.7			51.7	
			3Bar	PTFE ULF	(750)	N,	/A			(750)			(750)	4.6 (67)
			225 4Bar	PTFE				N,	/A					(07)
			225	ULF		51	7							4.1
DN20			2Bar	PTFE		(75		51	.7					(59)
to 40	14	20	225	ULF	51.7			(75	50)	51.7			51.7	
(NPS 3/4	14	20	3Bar	PTFE	(750)	N,	/A			(750)		-	(750)	4.6
to 1-1/2)			225	ULF		,		N,	/A					(67)
			4Bar	PTFE	27.3	39.2	1							
			225	ULF	(396)	(569)	51.7							4.1
			2Bar	PTFE	42.0	51.7	(750)	51	7					(59)
DN25				11115	(609)	(750)		(75		51.7			51.7	
to 50 (NPS 1 to 2	22	20	225	ULF	43.4 (629)			,		(750)		-	(750)	
(NF3 1 t0 2			3Bar	PTFE	` '	N,	/A							4.6
			225	ULF	51.7 (750)	,	,,,							(67)
			4Bar	PTFE	, ,			N,						
				ULF	10.2 (148)	14.6	25.3	35.9	45.3					
			225 2Bar		15.7	(212) 20.1	(367)	(521) 41.4	(657) 50.8	51.7 (750)				4.1 (59)
			2501	PTFE	(228)	(292)	(447)	(600)	(737)	(750)				(55)
DN40				ULF	16.2		1	25.9	35.3	47.2				
to 50	36	20	225 3Bar		(235)			(376)	(512)	(685)			51.7	
(NPS 1-1/2 to 2)			RAGE	PTFE	21.7 (315)			31.4 (455)	40.8 (592)	51.7 (750)			(750)	4.6
				ULF	28.3	N,	/A	, , , ,	1 , , , ,	47.2	1			(67)
			225	ULF	(410)			N,	/A	(685)]			
			4Bar	PTFE	33.7 (489)			14)		51.7 (750)				
					(489)		N/A	(750)						

Table 6. Maximum Pressure Drops with Standard Bonnet Construction and Low Strength Stem (continued)

			Actua-	ргорз w	Air to Open					Air to Close			,	
Valve	Port Size	Max Travel	tor	ENVIRO-				Su	ipply pressu	re			Max Press	ure Limits
Size	5.20		con- struc-	SEAL Packing	Max △P	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	ΔP	Supply
	mm	mm	tion	,	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)
			750	ULF	48.0 (696)	33.7 (489)							51.7	2.3
			2Bar	PTFE	51.7 (750)	39.2 (569)							(750)	(33)
DN40 to 50			750	ULF	48.0 (696)		I							
(NPS 1-1/2 to 2)	36	20	3Bar	PTFE	51.7 (750)									
			750	ULF	48.0 (696)	N,	/A						N,	A
			4Bar	PTFE	51.7 (750)			N,	/A					
			225	ULF		9.0 (131)	15.5 (225)	22.0 (319)	27.8 (403)	35.1 (509)			36.4 (528)	4.1
			2Bar	PTFE		12.3 (178)	18.8 (273)	25.4 (368)	31.1 (451)	38.4 (557)			39.7 (576)	(59)
			225	ULF	9.9 (144)		•	15.9 (231)	21.6 (313)	28.9 (419)			36.7 (532)	
			3Bar	PTFE	13.3 (193)] ,	1.0	19.2 (278)	25.0 (363)	32.3 (468)	-		40.1 (582)	4.6
			225	ULF	17.3 (251)	N,	/A			28.9 (419)			36.7 (532)	(67)
DN50	46	6 20	4Bar	PTFE	20.7 (300)			IN,	/A	32.3 (468)			40.1 (582)	
(NPS 2)	40		750 2Bar	ULF	29.4 (426)	20.7 (300)							33.7 (489)	2.3
				PTFE	32.8 (476)	24.0 (348)						37.1 (538)	(33)	
			750	ULF	29.4 (426)									
			3Bar	PTFE	32.8 (476)	N,	/A						N,	/A
			750	ULF	29.4 (426)		,,,	N.	/A					
			4Bar	PTFE	32.8 (476)			,						
			750	ULF	46.4 (673)	32.1 (466)	51.7 (750)							
			2Bar	PTFE	51.1 (741)	36.8 (534)	51.7 (750)	51					51.7	3.9
DN80	36	20	750	ULF	46.4 (673)			(75	oU)				(750)	(57)
(NPS 3)			3Bar	PTFE	51.1 (741)	N/A								
			750	ULF	46.4 (673)	I N/A		N/A					N,	/A
			4Bar	PTFE	51.1 (741)			N/A					,	

Table 6. Maximum Pressure Drops with Standard Bonnet Construction and Low Strength Stem (continued)

		IdXIIIIUIII PI	Actua-		Air to Open					Air to Close				
	Port	Max		ENVIRO-	ope			Su	ipply pressu	re			Max Press	ure Limits
Valve Size	Size	Travel	con- struc-	SEAL Packing	Max △P	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	ΔΡ	Supply
	mm	mm	tion		bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)
			750	ULF	28.4 (412)	19.7 (286)	41.5 (602)							
			2Bar	PTFE	31.3 (454)	22.6 (328)	44.3 (643)	51					51.7	3.9
DN80 -100	46	20	750	ULF	28.4 (412)			(75	50)				(750)	(57)
(NPS 3 to 4)	40	20	3Bar	PTFE	31.3 (454)	N	/A							
			750	ULF	28.4 (412)		,,,	N/A					N/	'Δ
			4Bar	PTFE	31.3 (454)								14)	А
			750 2Bar	ULF PTFE			.7 50)	51	17				51.7	3.9
DN80	70	20	750	ULF	51.7	,	,		50)				(750)	(57)
(NPS 3)	Bal	20	3Bar	PTFE ULF	(750)	N	/A							
			750 4Bar	PTFE				N,	/A				N/	Α
		40	750	ULF	11.5 (167)	17.2 (249)	26.6 (386)	35.9 (521)	44.2 (641)				44.2 (641)	
			2Bar	PTFE	12.8 (186)	18.4 (267)	27.8 (403)	37.2 (540)	45.4 (658)				45.4 (658)	3.44
DN80 -100	70		750	ULF	23.0 (334)	(334) 24.2 (351) 23.0 (334)		35.9 (521)	44.2 (641)		_			(50)
(NPS 3 to 4)	70	40	3Bar	PTFE	24.2 (351)			37.2 (540)	45.4 (658)		_		45.4 (658)	
			750	ULF	(334)			N/A		36.9 (535)			42.5 (616)	4.3
			4Bar	PTFE	24.2 (351)			N/A		38.2 (554)			43.8 (635)	(62)
			750	ULF		46.8 (679)	51.7 (750)							
	90	20	2Bar	PTFE	51.7	51.7 (750)	51.7 (750)		.7 50)				51.7 (750)	3.9 (57)
	Bal	20	750 3Bar	ULF PTFE	(750)									
			750	ULF		N	/A	N	/A				N/	Δ.
			4Bar	PTFE	7.0	10.4	16.1		•		T		ļ	A
DN100 (NPS 4)			750 2Bar	ULF	7.0 (102) 7.7	10.4 (151) 11.2	16.1 (234) 16.8	21.7 (315) 22.5	26.7 (387) 27.5				26.7 (387) 27.5	
,			2001	PTFE	(112) 13.9	(162)	(244)	(326)	(399)				(399)	3.44
	90	40	750	ULF	(202) 14.7			(315)	(387)		-		(387)	(50)
			3Bar	PTFE	(213)	3) N/A	(326)	(399)	22.2			(399)		
		 	750	ULF	13.9 (202)			N/A		22.3 (323)			25.7 (373)	4.3
		4Bar PTFE	PTFE	(213)	4.7		N/A		23.1 (335)			26.5 (384)	(62)	

Table 7. Shutoff Classification Capability for Standard Bonnet Construction and Low Strength Stem⁽¹⁾

Tuble 713	Indeo	- Ciassii	LIASSIIICALIOII	Саравііі	Air to Open	dara born	100 0011301	detion dir	Air to Close	ngen seen		
	Port	Max	Actua- tor	ENVIRO-				9	Supply pressure	<u> </u>		
Valve Size	Size	Travel	con- struc- tion	SEAL Packing	Shutoff	2 Bar (29 psi) Shutoff	2.5 Bar (36 psi) Shutoff	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)
	mm	mm		ULF		Silutoii	Silutoii	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff
			225 2Bar	PTFE		IV,	/,VI					
			225	ULF				IV,	V,VI			
	4.8	20	3Bar	PTFE	IV,V,VI					IV,V,VI		
DNIIE			225	ULF		N	/A					
DN15 to 25			4Bar	PTFE				N	/A			
(NPS 1/2 to			225	ULF	IV,V	0.73	/) (1					
1)			2Bar	PTFE		IV,	/,VI	11/1/1/1				
	9.5	20	225	ULF				10,	IV,V,VI		_	
	9.5	20	3Bar	PTFE	IV,V,VI	N	/A			IV,V,VI		-
			225	ULF			,,,,	N	/A			
			4Bar	PTFE					1			
			225	ULF	IV	IV	,V					
DN20			2Bar	PTFE	IV,V			IV,	V,VI			
to 40 (NPS 3/4 to	14	20	225 3Bar	ULF PTFE		_				IV,V,VI	-	.
1-1/2)				ULF	IV,V,VI	N	/A					
			225 4Bar	PTFE	10,0,01				/A			
			225	ULF		IV,VI						
			225 2Bar	PTFE	IV,VI	IV,V,VI	IV,V,VI					
DN25			225	ULF	14,41	,.,		IV,	V,VI			
to 50 (NPS 1 to 2	22	20	3Bar	PTFE						IV,V,VI		-
			225	ULF	IV,V,VI	N	/A		1.6			
			4Bar	PTFE				IN IN	/A			
			225	ULF		IV,VI	IV,VI	IV,V,VI				
			2Bar	PTFE		17,71	IV,V,VI		IV,V,VI			
			225	ULF	IV,VI			IV,VI	,.,	IV,V,VI	_	
			3Bar	PTFE		N	/A	IV,V,VI		,.,		
DN40			225	ULF	D () () (1		•	N	/A			
to 50 (NPS 1-1/2 to	36	20	4Bar	PTFE ULF	IV,V,VI		I					
2)			750 2Bar	PTFE		IV,V,VI						
,			750	ULF				-				
			3Bar	PTFE	IV,V,VI							
			750	ULF		N	/A					
			4Bar	PTFE				N	/A			
			225	ULF		n.	\ //	IV,VI	11/1/1/1			
			2Bar	PTFE		IV	,VI	IV,V,VI	- IV,V,VI			
			225	ULF				IV,VI	IV,VI	IV,V,VI		
			3Bar	PTFE	IV,VI	N	/A	10,01	IV,V,VI	10,0,01	-	
			225	ULF	1 V , V I	l 'N	,,,	N	/A			
DN50	46	20	4Bar	PTFE			T		!			
(NPS 2)			750	ULF		IV,VI						
			2Bar	PTFE		IV,V,VI		-				
			750 3Bar	ULF PTFE	IV,V,VI							
				ULF		N	/A	<u> </u>				
			750 4Bar	PTFE				N/A	/A			
	l		.501	I L	l					<u> </u>		

Table 7. Shutoff Classification Capability for Standard Bonnet Construction and Low Strength Stem⁽¹⁾ (continued)

Tuble 7.				Сарадііі	Air to Open	andard Bonnet Construction and Low Strength Stem(+) (continued) and Air to Close										
	Port	Max	Actua- tor	ENVIRO-				9	Supply pressur	<u> </u>						
Valve Size	Size	Travel	con- struc- tion	SEAL Packing	Shutoff	2 Bar (29 psi) Shutoff	2.5 Bar (36 psi) Shutoff	3 Bar (44 psi) Shutoff	3.44 Bar (50 psi) Shutoff	4 Bar (58 psi) Shutoff	5 Bar (72 psi) Shutoff	6 Bar (87 psi) Shutoff				
			750	ULF												
			2Bar	PTFE		IV,	/,VI									
DN80	26	20	750	ULF	0.43.43.4			IV,	/,VI							
(NPS 3)	36	20	3Bar	PTFE	IV,V,VI	N.	/A									
			750	ULF		N	/A	N	N/A							
			4Bar	PTFE				N/A								
			750	ULF		IV,VI	IV,V,VI									
BNIGG			2Bar	PTFE		17,71	10,0,01	IV.	IV,V,VI							
DN80 -100	46	20	750	ULF	IV,V,VI			. ,								
(NPS 3 to 4)			3Bar	PTFE	,.,	N	/A									
			750	ULF				N	/A							
			4Bar	PTFE												
			750	ULF		Г	IV									
			2Bar	PTFE ULF				r	V							
DN80 (NPS 3)	70 Bal	20	750 3Bar	PTFE	IV											
(141 5 5)	Dai			ULF	1	N	/A									
			750 4Bar	PTFE				N	/A							
			750	ULF												
			2Bar	PTFE	IV,VI	IV,	/,VI									
DN80			750	ULF				IV,	/,VI							
-100	70	40	3Bar	PTFE								-				
(NPS 3 to 4)			750	ULF	IV,V,VI	N	/A			07.77.4						
			4Bar	PTFE				N	/A	IV,V,VI						
			750	ULF			V				•					
			2Bar	PTFE			V		V							
	90	20	750	ULF	IV			'	v							
	Bal	20	3Bar	PTFE	ıv.	N	/A									
			750	ULF			,,,,	N	/A							
DN100			4Bar	PTFE			1				1					
(NPS 4)			750	ULF	IV,VI	IV,VI	IV,V,VI									
			2Bar	PTFE	·			IV,	/,VI							
	90	40	750	ULF				1				-				
			3Bar	PTFE	IV,V,VI	N	/A									
			750 4Bar	ULF PTFE				N/A		IV,V,VI						
1. CLVI shutoff is achieved through the use of a soft seat in ports greater than or equal to 22mm.																
I. CLVI SHULL	ייי וז מכוווכ	vea unought	inc usc of a	ore scar in po	i o gi catci tilali t	r cquar to 221111	in.									

Table 8 contains information regarding the maximum pressure drop capability of the GX with a bellows bonnet and CW2M trim. Maximum pressure drop is

calculated at the maximum supply pressure for each construction. The allowable leakage classes are given in table 9.

Table 8. Maximum Pressure Drops with Bellows Bonnet Construction and Low Strength Stem

Valve Size Max Actuator Travel Actuator Size Land S	Max Pressu ΔP bar (psi) 51.7 (750)	Supply bar (psi) 3.7 (54) 4.1 (59) 3.7 (54)
Size	51.7 (750)	bar (psi) 3.7 (54) 4.1 (59)
Mm	(psi) 51.7 (750) 51.7	(psi) 3.7 (54) 4.1 (59) 3.7
A.8 20 2Bar PTFE (750) 51.7 (750) 51.7 (750) DN15 to 25 (NPS 1/2 to 1) 9.5 20 225 ULF 3Bar PTFE (750) 225 ULF 225 ULF 225 ULF 3Bar PTFE (750) 51.7 (750)	(750) 51.7	(54) 4.1 (59) 3.7
A.8 20 28ar PTFE (750) 51.7 (750) DN15 to 25 (NPS 1/2 to 1) 9.5 20 225 3Bar PTFE (750) 51.7 ((750) 51.7	4.1 (59)
DN15 to 25 (NPS 1/2 to 1) 9.5 20 38ar PTFE (750) N/A 751.7 (750) N/A N/A 51.7 (750) N/A 51.7 (750) 51.7 (750) 51.7 (750) 51.7 (750) 51.7 (750) 51.7 (750) N/A 10 11 11 12 13 14 15 17 17 17 18 18 18 18 18 18 18	(750) 51.7	(59)
DN15 to 25 (NPS 1/2 to 1) 9.5 20 225 ULF 225 ULF 51.7 (750) 9.5 20 225 ULF 51.7 (750) 9.6 225 ULF 51.7 (750) 225 ULF 51.7 (750) 225 ULF 51.7 (750) N/A (750) N/A (750) N/A (750) N/A (750)	51.7	(59)
DN15		3.7
(NPS 1/2 to 1) 9.5 20 225 2Bar PTFE (750) 51.7 (750) 51.7 (750) 51.7 (750) 51.7 (750) 51.7 (750) 51.7 (750) 51.7 (750) 51.7 (750) 51.7 (750)		
9.5 20 28ar PTFE (750) 51.7 (750) 9.5 225 ULF 51.7 (750) N/A 51.7 (750)		
9.5 20 3Bar PTFE (750) N/A 51.7 (750)		,
3Bar PTFE (750) N/A 51.7 (750)	(750)	l
225 ULF N/A (750)		4.1
4Bar PTFE		(59)
225 ULF 51.7		3.7
DN20 225 31.7 750) 51.7		(54)
to 40 225 UIF 51.7 (750)	51.7	
(NPS 3/4 14 20 3Bar PTE (750) N/A (750)	(750)	4.1
225 ULF N/A (750)		(59)
4Ddi PIFE		<u> </u>
27.3 39.2 (396) (569) 51.7		3.7
DN25 PTFE 42.0 51.7 (750) 51.7 (750) DN25	54.7	(54)
to 50 22 20 20 ULF 43.4 (629)	51.7 (750)	
SBAR PTFE N/A 51.7		4.1
225 ULF 51.7 (750) N/A (750)		(59)
4Bar PIFE '		
ULF 10.2 14.6 25.3 35.9 45.3 (148) (212) (367) (521) (657)	50.9 (738)	
2Rar 15.7 20.1 30.8 41.4 50.8	51.7	3.7 (54)
PTFE (228) (292) (447) (600) (737)	(750)	()
DN40 ULF 16.2 25.9 35.3 47.2	49.3	
to 50 36 20 225 (235) (3/6) (512) (685)	(715) 51.7	
to 2) PIFE (315) (455) (592) (750)	(750)	4.1
N/A 47.2	49.3	(59)
225 (410)	(715)	
4Bar PTFE 33.7 (489) 51.7 (750)	51.7 (750)	

Table 8. Maximum Pressure Drops with Bellows Bonnet Construction and Low Strength Stem (continued)

Tuble 0	· WIGA	inium i		Drops w	Air to Open	W3 BOIIII	et cons	traction		Air to Close		(COTTENTO				
W.L.	Port	Max	Actua- tor	ENVIRO-	Орен			Su	ipply pressu	ıre			Max Press	ure Limits		
Valve Size	Size	Travel	con- struc-	SEAL Packing	Max △P	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	ΔP	Supply		
	mm	mm	tion		bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)		
			750	ULF	48.0 (696)	33.7 (489)	(12.1)	(15.1)	(12.7)	(1951)	(12.1)	(12.1)	47.9 (695)			
			750 2Bar	PTFE	51.7 (750)	39.2 (569)							51.7	2.2 (32)		
DN40				ULF	48.0	(309)							(750)			
to 50 (NPS 1-1/2	36	20	750 3Bar	PTFE	(696) 51.7											
to 2)				ULF	(750) 48.0	N,	/A			-			N/	/A		
			750 4Bar	PTFE	(696) 51.7			N,	/A							
				ULF	(750)	9.0	15.5	22.0	27.8				31.2			
			225 2Bar	PTFE		(131) 12.3	(225) 18.8	(319) 25.4	(403) 31.1				(453) 34.5	3.7 (54)		
				ULF	9.9	(178)	(273)	(368) 15.9	(451) 21.6	28.9			(500)			
			225 3Bar	PTFE	(144) 13.3			(231) 19.2	(313) 25.0	(419) 32.3	-		(438) 33.6			
				ULF	(193) 17.3	N,	/A	(278)	(363)	(468) 28.9			(487) 30.2	4.1 (59)		
			225 4Bar	PTFE	(251) 20.7			N,	/A	(419) 32.3			(438) 33.6			
DN50 (NPS 2)	46	20			(300) 29.4	20.7				(468)			(487) 29.4			
			750 2Bar	ULF	(426) 32.8	(300) 24.0							(426) 32.7	2.2 (32)		
				PTFE	(476) 29.4	(348)							(474)	(*)		
			750 3Bar	ULF	(426)											
				PTFE	(476) 29.4	N,	/A			-			N/	/A		
			750 4Bar	ULF	(426)			N,	/A							
			7501	PTFE	(476) 46.4	32.1			I							
			750 2Bar	ULF	(673) 51.1	(466)	51.7 (750)									
			ZDdi	PTFE	(741)	(534)	(730)	51.7					51.7	3.2		
DN80	36	20	750	ULF	46.4 (673)			(750)					(750)	(46)		
(NPS 3)			3Bar	PTFE	51.1 (741)	1) N/A										
			750	ULF	46.4 (673)			N/A					N/	/A		
	4Bar		4691	PTFE	51.1 (741)			N/A								

Table 8. Maximum Pressure Drops with Bellows Bonnet Construction and Low Strength Stem (continued)

			Actua-	Вторз и	Air to Open		<u>, </u>	·						
Valve	Port Size	Max Travel	tor	ENVIRO-				Su	ipply pressu	re			Max Press	ure Limits
Size	Size	navei	con- struc-	SEAL Packing	Max △P	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)	ΔP	Supply
	mm	mm	tion		bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)	bar (psi)
			750	ULF	28.4 (412)	19.7 (286)	41.5 (602)							
			2Bar	PTFE	31.3 (454)	22.6 (328)	44.3 (643)	51.7					51.7	3.2
DN80 -100	46		750	ULF	28.4 (412)		•	(750)					(750)	(46)
(NPS 3 to 4)	46	20	3Bar	PTFE	31.3 (454)	N/A								
			750	ULF	28.4 (412)	I IN	/A	N	/A				N/	10
			4Bar	PTFE	31.3 (454)			IN,	/A				IN)	A
			750 2Bar	ULF PTFE		51.7 (750)		51.7					51.7	3.2
DN80 (NPS 3)	70 Bal	20	750 3Bar	ULF PTFE	51.7 (750)			(750)					(750)	(46)
(22)			750 4Bar	ULF PTFE	(123)	N,	/A	N,	N/A				N)	/A
			750	ULF		46.8 (679)	51.7							
DN100	90		2Bar	PTFE	51.7	51.7 (750)	(750)	51.7 (750)					51.7 (750)	3.2 (46)
(NPS 4)	Bal	20	750 3Bar	ULF PTFE	(750)									
			750 4Bar	ULF PTFE		N/A		N/A					N/	/A

Table 9. Shutoff Classification Capability for Bellows Bonnet Construction and Low Strength Stem⁽¹⁾

Tuble 51 c	mato			Саравііі	Air to Open	7113 201111	e Constitu	etion una	Air to Close	genstenn		
	Port	Max	Actua- tor	ENVIRO-	•				Supply pressure	e		
Valve Size	Size	Travel	con- struc- tion	SEAL Packing	Shutoff	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)
	mm	mm		1115		Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff
			225 2Bar	ULF PTFE		IV,	V,VI					
				ULF				IV,	V,VI			
	4.8	20	225 3Bar	PTFE	IV,V,VI							
			225	ULF		N	/A			IV,V,VI		
DN15 to 25			4Bar	PTFE				N	/A			
(NPS 1/2 to			225	ULF	IV,V							
1)			2Bar	PTFE		IV,	V,VI					
	0.5	20	225	ULF				IV,	V,VI			
	9.5	20	3Bar	PTFE	IV,V,VI	N	14			11/1/1/1		- -
			225	ULF		IN	/A	N	I/A	IV,V,VI		
			4Bar	PTFE				IN	I/A			
			225	ULF	IV	IV,V	/ IV,V,VI					
DN20			2Bar	PTFE	IV,V	10,0	10,0,01	1\/ '	V,VI			
to 40	14	20	225	ULF	10,0			1,	v, v i			- -
(NPS 3/4 to		20	3Bar	PTFE		N	/A			IV,V,VI		
1-1/2)			225	ULF	IV,V,VI		,		/A	,.,.		
			4Bar	PTFE				,				
			225	ULF		IV,VI	IV,V,VI					
DN25			2Bar	PTFE ULF	IV,VI	IV,V,VI		IV,	V,VI			
	22	20	225 3Bar								-	
			-	PTFE ULF	IV,V,VI	N	/A			IV,V,VI		
			225 4Bar	PTFE	10,0,01			N	/A			
			225	ULF			IV,VI					
			2Bar	PTFE		IV,VI	IV,V,VI	IV,V,VI				
			225	ULF	IV,VI			IV,VI	IV,V,VI			
			3Bar	PTFE	,			IV,V,VI				
DN40			225	ULF		N	/A			IV,V,VI		
to 50	20	20	4Bar	PTFE	IV,V,VI			N	/A			
(NPS 1-1/2 to	36	20	750	ULF		IV,V,VI					•	
2)			2Bar	PTFE		10,0,01		_				
			750	ULF	IV,V,VI							
			3Bar	PTFE	1,,,,,,,	N	/A					
			750	ULF			1	N	/A			
			4Bar	PTFE					<i>'</i>		ı	
			225	ULF		IV	,VI	IV,VI	IV,V,VI			
			2Bar	PTFE				IV,V,VI				
			225 3Bar	ULF PTFE				IV,VI	IV,VI IV,V,VI		-	
				ULF	IV,VI	N	/A		10,0,01	IV,V,VI		
DNEO			225 4Bar	PTFE				N	/A			
DN50 (NPS 2)	46	20	750	ULF		IV,VI		1			<u> </u>	
(5 2)			2Bar	PTFE		IV,V,VI						
			750	ULF	1	,,,,,	ı	-				
			3Bar	PTFE	IV,V,VI							
			750	ULF		N/A			-			
			4Bar	PTFE	1		N/A					

Table 9. Shutoff Classification Capability for Bellows Bonnet Construction and Low Strength Stem⁽¹⁾ (continued)

					Air to Open									
Value	Port	Max	Actua- tor	ENVIRO-				9	Supply pressure	e				
Valve Size	Size	Travel	con- struc-	SEAL Packing	Shutoff	2 Bar (29 psi)	2.5 Bar (36 psi)	3 Bar (44 psi)	3.44 Bar (50 psi)	4 Bar (58 psi)	5 Bar (72 psi)	6 Bar (87 psi)		
	mm	mm	tion			Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff	Shutoff		
			750	ULF		IV,\	/ \/I							
			2Bar	PTFE		1,,,	, , v i	IV,V,VI						
DN80	36	20	750	ULF	IV,V,VI			,.,.						
(NPS 3)			3Bar	PTFE	, ,	N,	/A							
			750	ULF				N/A						
			4Bar	PTFE ULF					1					
			750 2Bar	PTFE		IV,VI	IV,V,VI							
DN80				ULF				IV,V,VI						
-100 (NPS 3 to 4)	46	20	750 3Bar	PTFE	IV,V,VI									
			750	ULF		N,	/A		l					
			4Bar	PTFE				N	/A					
			750	ULF			,							
			2Bar	PTFE		Ŋ	V	1) /						
DN80	70	20	750	ULF	IV			- IV						
(NPS 3)	Bal	20	3Bar	PTFE	IV	N,	ΙΔ							
			750	ULF		11/	,,,	N	/A					
			4Bar	PTFE					1					
			750	ULF		ľ	V							
			2Bar	PTFE				IV						
DN100 (NPS 4)	90 Bal	20	750 3Bar	ULF	IV									
(NP3 4)	Ddl			PTFE ULF	lv l	N,	/A							
			750 4Bar	PTFE		,		N	/A					
1. CLVI shuto	off is achie	ved through t			rts greater than o	l or equal to 22mn	n.	J.						

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