VALVE INDEX

Valve Code	Valve Type	Valve Ends	Valve Rating	Size Range	Temp Range (°C)	Valve Body Material Grade	Page
XBV60C	BALL	BW (EN 12627)	Class 600 (EN 12516-1)	8" - 30"	-20 / +80	8E3	3
XBV60D	BALL	BW (EN 12627)	Class 600 (EN 12516-1)	2" - 6"	-20 / +80	3E1	4
XPV60C	PLUG	BW (EN 12627)	Class 600 (EN 12516-1)	8" - 12"	-20 / +80	8E3	5
XPV60D	PLUG	BW (EN 12627)	Class 600 (EN 12516-1)	2" - 6"	-20 / +80	3E1	6
XPV60F	PLUG	BW/FL (EN12627/EN1759-1)	Class 600 (EN 12516-1)	2" - 6"	-20 / +80	3E1	7
XPV60G	PLUG	SW/FL (EN 12760/EN1759-1)	Class 600 (EN 12516-1)	1/2" - 2"	-20 / +80	3E1	8
XPV60L	PLUG	BW (EN 12627)	Class 600 (EN 12516-1)	8" - 12"	-40 / +80	7E1	9
XPV60M	PLUG	BW (EN 12627)	Class 600 (EN 12516-1)	2" - 6"	-40 / +80	7E0	10
XGV60L	GATE	BW (EN 12627)	Class 600 (EN 12516-1)	8" - 12"	-40 / +80	7E1	11
XGV60M	GATE	BW (EN 12627)	Class 600 (EN 12516-1)	2" - 6"	-40 / +80	7E0	12

FIELD IDENTIFICATION

Ends:	End Connections	
	BW	Butt Weld
	FL	Flanged
	SW	Socket Weld
	TH F	Threaded Female
	TH M	Threaded Male
Installation:	AG	Aboveground
	UG	Underground
Other:	ENP	Electroless Nickel Plating
	SS	Stainless Steel
	N/A	Not Applicable
	LT	Low Temperature
	NPT	National Pipe Taper

VALVES IDENTIFICATION

Valves are identified by a combination of six (6) characters.The concept for this identification is presented herebelow :

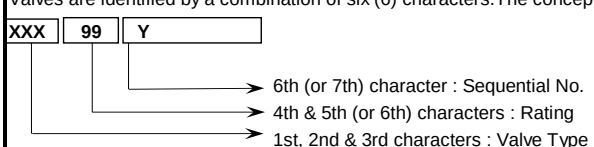

TABLE OF IDENTIFICATION CHARACTERS

1st, 2nd & 3rd CHARACTERS VALVE TYPE			4th & 5th (or 6th)CHARACTERS RATING		6th (or 7th) CHARACTER VALVES DIVERSIFICATION
XGV	:	GATE VALVE	15 :	Class 150	A : ≥8" FLANGED
XGL	:	GLOBE VALVE	30 :	Class 300	B : <8" FLANGED
XCV	:	CHECK VALVE	60 :	Class 600	C : ≥8" BW
XBV	:	BALL VALVE	90 :	Class 900	D : <8" BW
XPV	:	PLUG VALVE	150 :	Class 1500	E : ≥8" BW/FL
XBT	:	BUTTERFLY VALVE			F : <8" BW/FL
			06 :	PN6	G : <8" SW/FL
			10 :	PN10	…
			16 :	PN16	L : ≥8" BW LT
					M : <8" BW LT
					P : PIPELINE BW

Valve Code	XBV60C
Valve Description	**Ball Valves ≥ 8" - class 600 - BW**
Tag No.	**XBV-xxxx**

Trunnion mounted ball, fire safe, anti-blow out and anti-static design, double block and bleed with dual piston sealing effect.

GENERAL DATA	VALVE SIZE RANGE	**8" (DN200) ≤ NPS ≤ 30" (DN 750)**					
	VALVE PRESSURE CLASS	**#600**					
	VALVE TYPE	**Ball - double block and bleed.**					
	VALVE END CONFIGURATION	**Butt Weld / Butt Weld (Butt Weld End - Pupped)**					**Note 3**
	VALVE SERVICE	**Sweet Natural Gas with sporadic passage of water and glycol. Hydrogen blend up to 100%.**					
	VALVE BORE (FULL / REDUCED)	**Full Bore**					**Note 8**
	INSTALLATION	**Below Ground (UG), Direct Buried**					
	BODY DESIGN	**Fully Welded**					
	FLOW	**Bidirectional**					
DESIGN DATA	DESIGN PRESSURE (barg)	MINIMUM:	**Full Vacuum**	MAXIMUM:	**80**		
	DESIGN TEMPERATURE (°C)	MINIMUM:	**-20**	MAXIMUM:	**+80**		**Note 2**
	VALVE OPERATION	**Handwheel, Gear Operator Required**					**Note 7**
	VENT CONNECTION	**1" Valved and plugged, welded to the body**					**Note 9**
	DRAIN CONNECTION	**1" Valved and plugged, welded to the body**					**Note 9**
	PRESSURE RELIEF CONNECTION	**Required**					**Note 5**
	SEALANT INJECTION CONNECTION	**Required**					**Note 9**
	SUPPORT LEGS / FEET	**Required**					
	LIFTING EYES	**Required**					
	LOCKING FACILITY	**Required**					
	MARKING / TAGGING	**Required, as per DESFA Specification**					**Note 7**
	POSITION INDICATOR	**Required, as per DESFA Specification**					**Note 7**
	IMPACT TEST TEMPERATURE	**Minimum Design Temperature, as per Project Specification and EN 14141**					**Note 7**
	SURFACE TREATMENT	**In accordance with DESFA Specification**					**Note 7**
	FIRE SAFE DESIGN	**As per API 6FA / EN ISO 10497**					
MATERIALS	BODY	**Fully Killed Fine Grain Carbon Steel P355NH (1.0565)**					**Note 4**
	COVER/BONNET	**Fully Killed Fine Grain Carbon Steel P355NH (1.0565)**					**Note 4**
	GATE	**N/A**					
	BALL	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	DISC	**N/A**					
	TRIM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	SEALS	**Viton / Graphite - Dual Piston Seals**					**Note 1, 2**
	GASKETS	**N/A**					
	STEM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRUNNION						
	SEAT/RINGS						
	STEM SEAL	**Viton / 316 / Graphite**					**Note 2,6**
	BOLTING	**N/A**					
CODES & STANDARDS	DESIGN	**EN 1594 / EN 13942 / EN 14141 / API 6D / EN 12266-1 / PED 2014/68/EU/ ASME B31.12 PL Option A**					
	DIMENSIONS	**EN 13942 / EN 14141 / API 6D**					
	FLANGE DIMENSIONS	**N/A**					
	WELD END DIMENSIONS	**EN 12627**					
	CERTIFICATION	**EN 10204 type 3.2**					
	FIRE TEST	**EN 14141 / EN ISO 10497**					
	HYDROSTATIC TEST	**EN 14141**					**Note 1**

NOTES	
1.	An additional leak test, with helium as the test medium, shall be carried out after the hydraulic test at 1.1 times rated pressure as API 6D Annex H, para. H4. The test duration shall be as per Table H.1.
2.	Seals to be suitable for 80°C. Stem to be anti blowout. Seals material shall be suitable or 100% of H2, as per Manufacturers recommendations. Stem seals shall be fugitive emission tested in accordance with ISO 15848-2. Test shall be carried out at both ambient and maximum design pressure with helium as fluid. The fugitive emission tightness class shall be BH
3.	Butt weld end to be pupped. Minimum pup length 500 mm, to be confirmed by vendor. Pup material, wall thickess and internal / external coating shall be same as for the abutting pipe, as per DSF-1105301-1663-SPC-PLN-101 - Piping Classes Specification. Pup material shall comply with ASME B31.12, Part PL option A requirements regarding material properties and wall thickness.
4.	Materials per EN 14141 / EN 12516.
5.	Pressure relief connection shall be extended to a level close to the valve operator and shall be valved with plug valve class 1500 with metallic sealing mounted by welding directely to the ball valve body and fitted with a threaded solid hexagonal head plug.
6.	Stem extension length as per relevant MTO. Stem extension housing shall be rigidly mounted to valve body The stem extension casing shall be equipped with a device to release pressure in case of leakage from the stem sealing system.
7.	This Data Sheet relates to Desfa Specifications for Ball Valves≥50 "DSF-SPC-PIP-025" and Manual Valve Operators "DSF-SPC-PIP-037".
8.	Bore diameter shall be as per EN 13942 table 1.
9.	The connection shall extend to surface/ground level.

Valve Code	XBV60D
Valve Description	**Ball Valves < 8" - class 600 - BW**
Tag No.	**XBV-xxxx**

Trunnion mounted ball, fire safe, anti-blow out and anti-static design, double block and bleed with dual piston sealing effect.

GENERAL DATA	VALVE SIZE RANGE	**2" (DN50) ≤ NPS < 8" (DN 200)**					
	VALVE PRESSURE CLASS	**#600**					
	VALVE TYPE	**Ball - double block and bleed.**					
	VALVE END CONFIGURATION	**Butt Weld / Butt Weld (Butt Weld End - Pupped)**					**Note 3**
	VALVE SERVICE	**Sweet Natural Gas with sporadic passage of water and glycol. Hydrogen blend up to 100%.**					
	VALVE BORE (FULL / REDUCED)	**Full Bore**					**Note 8**
	INSTALLATION	**Below Ground (UG), Direct Buried**					
	BODY DESIGN	**Fully Welded**					
	FLOW	**Bidirectional**					
DESIGN DATA	DESIGN PRESSURE (barg)	MINIMUM:	**Full Vacuum**	MAXIMUM:	**80**		
	DESIGN TEMPERATURE (°C)	MINIMUM:	**-20**	MAXIMUM:	**+80**		**Note 2**
	VALVE OPERATION	**Handweel or lever / Handwheel and Gear Box for valves ≥ 6"**					**Note 7**
	VENT CONNECTION	**Plugged according to manufacture standard.**					**Note 9**
	DRAIN CONNECTION	**Plugged according to manufacture standard.**					**Note 9**
	PRESSURE RELIEF CONNECTION	**Required**					**Note 5**
	SEALANT INJECTION CONNECTION	**Required**					**Note 9**
	SUPPORT LEGS / FEET	**N/A**					
	LIFTING EYES	**Required for valves ≥ 6"**					
	LOCKING FACILITY	**Required for valves ≥ 4"**					
	MARKING / TAGGING	**Required, as per DESFA Specification**					**Note 7**
	POSITION INDICATOR	**Required, as per DESFA Specification**					**Note 7**
	IMPACT TEST TEMPERATURE	**Minimum Design Temperature, as per Project Specification and EN 14141**					**Note 7**
	SURFACE TREATMENT	**In accordance with DESFA Specification**					**Note 7**
	FIRE SAFE DESIGN	**As per API 6FA / EN ISO 10497**					
MATERIALS	BODY	**Fully Killed Fine Grain Carbon Steel P280GH (1.0426)**					**Note 4**
	COVER/BONNET	**Fully Killed Fine Grain Carbon Steel P280GH (1.0426)**					**Note 4**
	GATE	**N/A**					
	BALL	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	DISC	**N/A**					
	TRIM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	SEALS	**Viton / Graphite - Dual Piston Seals**					**Note 1, 2**
	GASKETS	**N/A**					
	STEM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRUNNION						
	SEAT/RINGS						
	STEM SEAL	**Viton / 316 / Graphite**					**Note 2,6**
	BOLTING	**N/A**					
CODES & STANDARDS	DESIGN	**EN 1594 / EN 13942 / EN 14141 / API 6D / EN 12266-1 / PED 2014/68/EU/ ASME B31.12 PL Option A**					
	DIMENSIONS	**EN 13942 / EN 14141 / API 6D**					
	FLANGE DIMENSIONS	**N/A**					
	WELD END DIMENSIONS	**EN 12627**					
	CERTIFICATION	**EN 10204 type 3.1**					
	FIRE TEST	**EN 14141 / EN ISO 10497**					
	HYDROSTATIC TEST	**EN 14141**					**Note 1**

NOTES	
1.	An additional leak test, with helium as the test medium, shall be carried out after the hydraulic test at 1.1 times rated pressure as API 6D Annex H, para. H4. The test duration shall be as per Table H.1.
2.	Seals to be suitable for 80°C. Stem to be anti blowout. Seals material shall be suitable or 100% of H2, as per Manufacturers recommendations. Stem seals shall be fugitive emission tested in accordance with ISO 15848-2. Test shall be carried out at both ambient and maximum design pressure with helium as fluid. The fugitive emission tightness class shall be BH
3.	Butt weld end to be pupped. Minimum pup length 500 mm, to be confirmed by vendor. Pup material, wall thickess and internal / external coating shall be same as for the abutting pipe, as per DSF-1105301-1663-SPC-PLN-101 - Piping Classes Specification. Pup material shall comply with ASME B31.12, Part PL option A requirements regarding material properties and wall thickness.
4.	Materials per EN 14141 / EN 12516.
5.	Pressure relief connection shall be extended to a level close to the valve operator and shall be valved with plug valve class 1500 with metallic sealing mounted by welding directely to the ball valve body and fitted with a threaded solid hexagonal head plug.
6.	Stem extension length as per relevant MTO. Stem extension housing shall be rigidly mounted to valve body The stem extension casing shall be equipped with a device to release pressure in case of leakage from the stem sealing system.
7.	This Data Sheet relates to Desfa Specifications for Ball Valves≥50 "DSF-SPC-PIP-025" and Manual Valve Operators "DSF-SPC-PIP-037".
8.	Bore diameter shall be as per EN 13942 table 1.
9.	The connection shall extend to surface/ground level.

Valve Code	XPV60C
Valve Description	**Plug Valves ≥ 8" - class 600 - BW**
Tag No.	**XPV-xxxx**

Venturi pattern, pressure balanced, lubricated taper plug with anti-friction coating, fire safe design.

GENERAL DATA	VALVE SIZE RANGE	**8" (DN200) ≤ NPS ≤ 12" (DN 300)**	
	VALVE PRESSURE CLASS	**#600**	
	VALVE TYPE	**Plug - Double Block and Bleed - Venturi pattern.**	
	VALVE END CONFIGURATION	**Butt Weld / Butt Weld (Butt Weld End - Pupped)**	**Note 3**
	VALVE SERVICE	**Sweet Natural Gas with sporadic passage of water and glycol. Hydrogen blend up to 100%.**	
	VALVE BORE (FULL / REDUCED)	**N/A**	
	INSTALLATION	**Below Ground (UG), Direct Buried**	
	BODY DESIGN	**Fully Welded**	
	FLOW	**Bidirectional**	

DESIGN DATA	DESIGN PRESSURE (barg)	MINIMUM:	**Full Vacuum**		MAXIMUM:		**80**	
	DESIGN TEMPERATURE (°C)	MINIMUM:	**-20**	**mm**	AXIMU	mm	**+80**	**Note 2**
	VALVE OPERATION	**Handwheel, Gear Operator Required**						**Note 7**
	VENT CONNECTION	**N/A**						
	DRAIN CONNECTION	**N/A**						
	PRESSURE RELIEF CONNECTION	**N/A**						
	SEALANT INJECTION CONNECTION	**Required**						
	SUPPORT LEGS / FEET	**Required**						
	LIFTING EYES	**Required**						
	LOCKING FACILITY	**Required**						
	MARKING / TAGGING	**Required, as per DESFA Specification**						**Note 7**
	POSITION INDICATOR	**Required, as per DESFA Specification**						**Note 7**
	IMPACT TEST TEMPERATURE	**Minimum Design Temperature, as per Project Specification and EN 14141**						**Note 7**
	SURFACE TREATMENT	**In accordance with DESFA Specification**						**Note 7**
	FIRE SAFE DESIGN	**As per API 6FA / EN ISO 10497**						

MATERIALS	BODY	**Fully Killed Fine Grain Carbon Steel P355NH (1.0565)**	**Note 4**
	COVER/BONNET	**Fully Killed Fine Grain Carbon Steel P355NH (1.0565)**	**Note 4**
	GATE	**N/A**	
	BALL	**N/A**	
	PLUG	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**	
	TRIM	**N/A**	
	SEALS	**Dual Slip Seals - Viton - Manufacturer to confirm/advise for service**	**Note 1, 2**
	GASKETS	**N/A**	
	STEM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**	
	TRUNNION	**N/A**	
	SEAT/RINGS	**N/A**	
	STEM SEAL	**Viton / 316 / Graphite**	**Note 2,6**
	BOLTING	**N/A**	

CODES & STANDARDS	DESIGN	**EN 1594 / EN 13942 / EN 14141 / API 6D / EN 12266-1 / PED 2014/68/EU/ ASME B31.12 PL Option A**
	DIMENSIONS	**EN 13942 / EN 14141 / API 6D**
	FLANGE DIMENSIONS	**N/A**
	WELD END DIMENSIONS	**EN 12627**
	CERTIFICATION	**EN 10204 type 3.2**
	FIRE TEST	**EN 14141 / EN ISO 10497**
	HYDROSTATIC TEST	**EN 14141** **Note 1**

NOTES	
1.	An additional leak test, with helium as the test medium, shall be carried out after the hydraulic test at 1.1 times rated pressure as API 6D Annex H, para. H4. The test duration shall be as per Table H.1.
2.	Seals to be suitable for 80°C. Stem to be anti blowout. Seals material shall be suitable or 100% of H2, as per Manufacturers recommendations. Stem seals shall be fugitive emission tested in accordance with ISO 15848-2. Test shall be carried out at both ambient and maximum design pressure with helium as fluid. The fugitive emission tightness class shall be BH
3.	Butt weld end to be pupped. Minimum pup length 500 mm, to be confirmed by vendor. Pup material, wall thickess and internal / external coating shall be same as for the abutting pipe, as per DSF-1105301-1663-SPC-PLN-101 - Piping Classes Specification. Pup material shall comply with ASME B31.12, Part PL option A requirements regarding material properties and wall thickness.
4.	Materials per EN 14141 / EN 12516.
5.	N/A
6.	Stem extension length as per relevant MTO. Stem extension housing shall be rigidly mounted to valve body The stem extension casing shall be equipped with a device to release pressure in case of leakage from the stem sealing system.
7.	This Data Sheet relates to Desfa Specifications for Plug Valves≥50 "DSF-SPC-PIP-024" and Manual Valve Operators "DSF-SPC-PIP-037".

Valve Code	XPV60D
Valve Description	**Plug Valves < 8" - class 600 - BW**
Tag No.	**XPV-xxxx**

Venturi pattern, pressure balanced, lubricated taper plug with anti-friction coating, fire safe design.

GENERAL DATA	VALVE SIZE RANGE	**2" (DN50) ≤ NPS < 8" (DN 200)**				
	VALVE PRESSURE CLASS	**#600**				
	VALVE TYPE	**Plug - Double Block and Bleed - Venturi pattern.**				
	VALVE END CONFIGURATION	**Butt Weld / Butt Weld (Butt Weld End - Pupped)**				**Note 3**
	VALVE SERVICE	**Sweet Natural Gas with sporadic passage of water and glycol. Hydrogen blend up to 100%.**				
	VALVE BORE (FULL / REDUCED)	**N/A**				
	INSTALLATION	**Below Ground (UG), Direct Buried**				
	BODY DESIGN	**Fully Welded**				
	FLOW	**Bidirectional**				
DESIGN DATA	DESIGN PRESSURE (barg)	MINIMUM:	**Full Vacuum**	MAXIMUM:	**80**	
	DESIGN TEMPERATURE (°C)	MINIMUM:	**-20**	MAXIMUM:	**+80**	**Note 2**
	VALVE OPERATION	**Handweel or lever / Handwheel and Gear Box for valves ≥ 6"**				**Note 7**
	VENT CONNECTION	**N/A**				
	DRAIN CONNECTION	**N/A**				
	PRESSURE RELIEF CONNECTION	**N/A**				
	SEALANT INJECTION CONNECTION	**Required**				
	SUPPORT LEGS / FEET	**N/A**				
	LIFTING EYES	**Required for valves ≥ 6"**				
	LOCKING FACILITY	**Required for valves ≥ 4"**				
	MARKING / TAGGING	**Required, as per DESFA Specification**				**Note 7**
	POSITION INDICATOR	**Required, as per DESFA Specification**				**Note 7**
	IMPACT TEST TEMPERATURE	**Minimum Design Temperature, as per Project Specification and EN 14141**				**Note 7**
	SURFACE TREATMENT	**In accordance with DESFA Specification**				**Note 7**
	FIRE SAFE DESIGN	**As per API 6FA / EN ISO 10497**				
MATERIALS	BODY	**Fully Killed Fine Grain Carbon Steel P280GH (1.0426)**				**Note 4**
	COVER/BONNET	**Fully Killed Fine Grain Carbon Steel P280GH (1.0426)**				**Note 4**
	GATE	**N/A**				
	BALL	**N/A**				
	PLUG	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**				
	TRIM	**N/A**				
	SEALS	**Dual Slip Seals - Viton - Manufacturer to confirm/advise for service**				**Note 1, 2**
	GASKETS	**N/A**				
	STEM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**				
	TRUNNION	**N/A**				
	SEAT/RINGS	**N/A**				
	STEM SEAL	**Viton / 316 / Graphite**				**Note 2,6**
	BOLTING	**N/A**				
CODES & STANDARDS	DESIGN	**EN 1594 / EN 13942 / EN 14141 / API 6D / EN 12266-1 / PED 2014/68/EU/ ASME B31.12 PL Option A**				
	DIMENSIONS	**EN 13942 / EN 14141 / API 6D**				
	FLANGE DIMENSIONS	**N/A**				
	WELD END DIMENSIONS	**EN 12627**				
	CERTIFICATION	**EN 10204 type 3.1**				
	FIRE TEST	**EN 14141 / EN ISO 10497**				
	HYDROSTATIC TEST	**EN 14141**				**Note 1**

NOTES	
1.	An additional leak test, with helium as the test medium, shall be carried out after the hydraulic test at 1.1 times rated pressure as API 6D Annex H, para. H4. The test duration shall be as per Table H.1.
2.	Seals to be suitable for 80°C. Stem to be anti blowout. Seals material shall be suitable or 100% of H2, as per Manufacturers recommendations. Stem seals shall be fugitive emission tested in accordance with ISO 15848-2. Test shall be carried out at both ambient and maximum design pressure with helium as fluid. The fugitive emission tightness class shall be BH
3.	Butt weld end to be pupped. Minimum pup length 500 mm, to be confirmed by vendor. Pup material, wall thickess and internal / external coating shall be same as for the abutting pipe, as per DSF-1105301-1663-SPC-PLN-101 - Piping Classes Specification. Pup material shall comply with ASME B31.12, Part PL option A requirements regarding material properties and wall thickness.
4.	Materials per EN 14141 / EN 12516.
5.	N/A
6.	Stem extension length as per relevant MTO. Stem extension housing shall be rigidly mounted to valve body The stem extension casing shall be equipped with a device to release pressure in case of leakage from the stem sealing system.
7.	This Data Sheet relates to Desfa Specifications for Plug Valves≥50 "DSF-SPC-PIP-024" and Manual Valve Operators "DSF-SPC-PIP-037".

Valve Code	XPV60F
Valve Description	**Plug Valves < 8" - class 600 - BW/FL**
Tag No.	**XPV-xxxx**

Venturi pattern, pressure balanced, lubricated taper plug with anti-friction coating, fire safe design.

GENERAL DATA	VALVE SIZE RANGE	**2" (DN50) ≤ NPS < 8" (DN 200)**					
	VALVE PRESSURE CLASS	**#600**					
	VALVE TYPE	**Plug - Double Block and Bleed - Venturi pattern.**					
	VALVE END CONFIGURATION	**Butt Weld (Butt Weld End - Pupped) / RF flange**					**Note 3**
	VALVE SERVICE	**Sweet Natural Gas with sporadic passage of water and glycol. Hydrogen blend up to 100%.**					
	VALVE BORE (FULL / REDUCED)	**N/A**					
	INSTALLATION	**Above Ground (AG)**					
	BODY DESIGN	**N/A**					
	FLOW	**Bidirectional**					
DESIGN DATA	DESIGN PRESSURE (barg)	MINIMUM:	**Full Vacuum**	MAXIMUM:	**80**		
	DESIGN TEMPERATURE (°C)	MINIMUM:	**-20**	MAXIMUM:	**+80**		**Note 2**
	VALVE OPERATION	**Handweel or lever / Handwheel and Gear Box for valves ≥ 6"**					**Note 7**
	VENT CONNECTION	**N/A**					
	DRAIN CONNECTION	**N/A**					
	PRESSURE RELIEF CONNECTION	**N/A**					
	SEALANT INJECTION CONNECTION	**N/A**					
	SUPPORT LEGS / FEET	**N/A**					
	LIFTING EYES	**Required for valves ≥ 6"**					
	LOCKING FACILITY	**Required for valves ≥ 4"**					
	MARKING / TAGGING	**Required, as per DESFA Specification**					**Note 7**
	POSITION INDICATOR	**Required, as per DESFA Specification**					**Note 7**
	IMPACT TEST TEMPERATURE	**Minimum Design Temperature, as per Project Specification and EN 14141**					**Note 7**
	SURFACE TREATMENT	**In accordance with DESFA Specification**					**Note 7**
	FIRE SAFE DESIGN	**As per API 6FA / EN ISO 10497**					
MATERIALS	BODY	**Fully Killed Fine Grain Carbon Steel P280GH (1.0426)**					**Note 4**
	COVER/BONNET	**Fully Killed Fine Grain Carbon Steel P280GH (1.0426)**					**Note 4**
	GATE	**N/A**					
	BALL	**N/A**					
	PLUG	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRIM	**N/A**					
	SEALS	**Dual Slip Seals - Viton - Manufacturer to confirm/advise for service**					**Note 1, 2**
	GASKETS	**N/A**					
	STEM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRUNNION	**N/A**					
	SEAT/RINGS	**N/A**					
	STEM SEAL	**Viton / 316 / Graphite**					**Note 2,6**
	BOLTING	**EN 10269, EN 1515-1 & -3 (Bolts: 42CrM04 – 1.7225, Nuts: C45E – 1.1191)**					
CODES & STANDARDS	DESIGN	**EN 1594 / EN 13942 / EN 14141 / API 6D / EN 12266-1 / PED 2014/68/EU/ ASME B31.12 PL Option A**					
	DIMENSIONS	**EN 13942 / EN 14141 / API 6D**					
	FLANGE DIMENSIONS	**EN 1759-1**					
	WELD END DIMENSIONS	**EN 12627**					
	CERTIFICATION	**EN 10204 type 3.1**					
	FIRE TEST	**EN 14141 / EN ISO 10497**					
	HYDROSTATIC TEST	**EN 14141**					**Note 1**

NOTES	
1.	An additional leak test, with helium as the test medium, shall be carried out after the hydraulic test at 1.1 times rated pressure as API 6D Annex H, para. H4. The test duration shall be as per Table H.1.
2.	Seals to be suitable for 80°C. Stem to be anti blowout. Seals material shall be suitable or 100% of H2, as per Manufacturers recommendations. Stem seals shall be fugitive emission tested in accordance with ISO 15848-2. Test shall be carried out at both ambient and maximum design pressure with helium as fluid. The fugitive emission tightness class shall be BH
3.	Butt weld end to be pupped. Minimum pup length 500 mm, to be confirmed by vendor. Pup material, wall thickess and internal / external coating shall be same as for the abutting pipe, as per DSF-1105301-1663-SPC-PLN-101 - Piping Classes Specification. Pup material shall comply with ASME B31.12, Part PL option A requirements regarding material properties and wall thickness.
4.	Materials per EN 14141 / EN 12516.
5.	N/A
6.	N/A
7.	This Data Sheet relates to Desfa Specifications for Plug Valves≥50 "DSF-SPC-PIP-024" and Manual Valve Operators "DSF-SPC-PIP-037".

Valve Code	XPV60G
Valve Description	**Plug Valves < 2" - class 600 - SW/RF**
Tag No.	**XPV-xxxx**

Venturi pattern, pressure balanced, lubricated taper plug with anti-friction coating, fire safe design.

GENERAL DATA	VALVE SIZE RANGE	**1/2" (DN15) ≤ NPS < 2" (DN 50)**					
	VALVE PRESSURE CLASS	**#600**					
	VALVE TYPE	**Plug - Double Block and Bleed - Venturi pattern.**					
	VALVE END CONFIGURATION	**SW (Socket Weld) / RF flange**					**Note 3**
	VALVE SERVICE	**Sweet Natural Gas with sporadic passage of water and glycol. Hydrogen blend up to 100%.**					
	VALVE BORE (FULL / REDUCED)	**N/A**					
	INSTALLATION	**Above Ground (AG)**					
	BODY DESIGN	**N/A**					
	FLOW	**Bidirectional**					
DESIGN DATA	DESIGN PRESSURE (barg)	MINIMUM:	**Full Vacuum**	MAXIMUM:	**80**		
	DESIGN TEMPERATURE (°C)	MINIMUM:	**-20**	MAXIMUM:	**+80**		**Note 2**
	VALVE OPERATION	**Handweel or lever / Handwheel and Gear Box for valves ≥ 6"**					**Note 7**
	VENT CONNECTION	**N/A**					
	DRAIN CONNECTION	**N/A**					
	PRESSURE RELIEF CONNECTION	**N/A**					
	SEALANT INJECTION CONNECTION	**N/A**					
	SUPPORT LEGS / FEET	**N/A**					
	LIFTING EYES	**N/A**					
	LOCKING FACILITY	**N/A**					
	MARKING / TAGGING	**Required, as per DESFA Specification**					**Note 7**
	POSITION INDICATOR	**Required, as per DESFA Specification**					**Note 7**
	IMPACT TEST TEMPERATURE	**Minimum Design Temperature, as per Project Specification and EN 14141**					**Note 7**
	SURFACE TREATMENT	**In accordance with DESFA Specification**					**Note 7**
	FIRE SAFE DESIGN	**As per API 6FA / EN ISO 10497**					
MATERIALS	BODY	**Fully Killed Fine Grain Carbon Steel P280GH (1.0426)**					**Note 4**
	COVER/BONNET	**Fully Killed Fine Grain Carbon Steel P280GH (1.0426)**					**Note 4**
	GATE	**N/A**					
	BALL	**N/A**					
	PLUG	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRIM	**N/A**					
	SEALS	**Dual Slip Seals - Viton - Manufacturer to confirm/advise for service**					**Note 1, 2**
	GASKETS	**N/A**					
	STEM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRUNNION	**N/A**					
	SEAT/RINGS	**N/A**					
	STEM SEAL	**Viton / 316 / Graphite**					**Note 2**
	BOLTING	**EN 10269, EN 1515-1 & -3 (Bolts: 42CrM04 – 1.7225, Nuts: C45E – 1.1191)**					
CODES & STANDARDS	DESIGN	**EN 1594 / EN 13942 / EN 14141 / API 6D / EN 12266-1 / PED 2014/68/EU/ ASME B31.12 PL Option A**					
	DIMENSIONS	**EN 13942 / EN 14141 / API 6D**					
	FLANGE DIMENSIONS	**EN 1759-1**					
	WELD END DIMENSIONS	**EN 12760**					
	CERTIFICATION	**EN 10204 type 3.1**					
	FIRE TEST	**EN 14141 / EN ISO 10497**					
	HYDROSTATIC TEST	**EN 14141**					**Note 1**

NOTES	
1.	An additional leak test, with helium as the test medium, shall be carried out after the hydraulic test at 1.1 times rated pressure as API 6D Annex H, para. H4. The test duration shall be as per Table H.1.
2.	Seals to be suitable for 80°C. Stem to be anti blowout. Seals material shall be suitable or 100% of H2, as per Manufacturers recommendations. Stem seals shall be fugitive emission tested in accordance with ISO 15848-2. Test shall be carried out at both ambient and maximum design pressure with helium as fluid. The fugitive emission tightness class shall be BH
3.	Butt weld end to be pupped. Minimum pup length 500 mm, to be confirmed by vendor. Pup material, wall thickess and internal / external coating shall be same as for the abutting pipe, as per DSF-1105301-1663-SPC-PLN-101 - Piping Classes Specification. Pup material shall comply with ASME B31.12, Part PL option A requirements regarding material properties and wall thickness.
4.	Materials per EN 14141 / EN 12516.
5.	N/A
6.	N/A
7.	This Data Sheet relates to Desfa Specifications for Valves<50 "DSF-SPC-PIP-026" and Manual Valve Operators "DSF-SPC-PIP-037".

Valve Code	**XPV60L**	
Valve Description	**Plug Valves ≥ 8" - class 600 - BW - LT**	
Tag No.	**XPV-xxxx**	
Venturi pattern, pressure balanced, lubricated taper plug with anti-friction coating, fire safe design.		

GENERAL DATA	VALVE SIZE RANGE	**8" (DN200) ≤ NPS ≤ 12" (DN 300)**					
	VALVE PRESSURE CLASS	**#600**					
	VALVE TYPE	**Plug - Double Block and Bleed - Venturi pattern.**					
	VALVE END CONFIGURATION	**Butt Weld / Butt Weld (Butt Weld End - Pupped)**					**Note 3**
	VALVE SERVICE	**Sweet Natural Gas with sporadic passage of water and glycol. Hydrogen blend up to 100%.**					
	VALVE BORE (FULL / REDUCED)	**N/A**					
	INSTALLATION	**Below Ground (UG), Direct Buried**					
	BODY DESIGN	**Fully Welded**					
	FLOW	**Bidirectional**					
DESIGN DATA	DESIGN PRESSURE (barg)	MINIMUM:	**Full Vacuum**	MAXIMUM:	**80**		
	DESIGN TEMPERATURE (°C)	MINIMUM:	**-40**	MAXIMUM:	**+80**		**Note 2**
	VALVE OPERATION	**Handwheel, Gear Operator Required**					**Note 7**
	VENT CONNECTION	**N/A**					
	DRAIN CONNECTION	**N/A**					
	PRESSURE RELIEF CONNECTION	**N/A**					
	SEALANT INJECTION CONNECTION	**Required**					
	SUPPORT LEGS / FEET	**N/A**					
	LIFTING EYES	**Required for valves ≥ 6"**					
	LOCKING FACILITY	**Required**					
	MARKING / TAGGING	**Required, as per DESFA Specification**					**Note 7**
	POSITION INDICATOR	**Required, as per DESFA Specification**					**Note 7**
	IMPACT TEST TEMPERATURE	**Minimum Design Temperature, as per Project Specification and EN 14141**					**Note 7**
	SURFACE TREATMENT	**In accordance with DESFA Specification**					**Note 7**
	FIRE SAFE DESIGN	**As per API 6FA / EN ISO 10497**					
MATERIALS	BODY	**Fully Killed Fine Grain Carbon Steel P355NL1 (1.0566)**					**Note 4**
	COVER/BONNET	**Fully Killed Fine Grain Carbon Steel P355NL1 (1.0566)**					**Note 4**
	GATE	**N/A**					
	BALL	**N/A**					
	PLUG	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRIM	**N/A**					
	SEALS	**Dual Slip Seals - Viton - Manufacturer to confirm/advise for service**					**Note 1, 2**
	GASKETS	**N/A**					
	STEM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRUNNION	**N/A**					
	SEAT/RINGS	**N/A**					
	STEM SEAL	**Viton / 316 / Graphite**					**Note 2,6**
	BOLTING	**N/A**					
CODES & STANDARDS	DESIGN	**EN 1594 / EN 13942 / EN 14141 / API 6D / EN 12266-1 / PED 2014/68/EU/ ASME B31.12 PL Option A**					
	DIMENSIONS	**EN 13942 / EN 14141 / API 6D**					
	FLANGE DIMENSIONS	**N/A**					
	WELD END DIMENSIONS	**EN 12627**					
	CERTIFICATION	**EN 10204 type 3.2**					
	FIRE TEST	**EN 14141 / EN ISO 10497**					
	HYDROSTATIC TEST	**EN 14141**					**Note 1**

NOTES	
1.	An additional leak test, with helium as the test medium, shall be carried out after the hydraulic test at 1.1 times rated pressure as API 6D Annex H, para. H4. The test duration shall be as per Table H.1.
2.	Seals to be suitable for 80°C. Stem to be anti blowout. Seals material shall be suitable or 100% of H2, as per Manufacturers recommendations. Stem seals shall be fugitive emission tested in accordance with ISO 15848-2. Test shall be carried out at both ambient and maximum design pressure with helium as fluid. The fugitive emission tightness class shall be BH
3.	Butt weld end to be pupped. Minimum pup length 500 mm, to be confirmed by vendor. Pup material, wall thickess and internal / external coating shall be same as for the abutting pipe, as per DSF-1105301-1663-SPC-PLN-101 - Piping Classes Specification. Pup material shall comply with ASME B31.12, Part PL option A requirements regarding material properties and wall thickness.
4.	Materials per EN 14141 / EN 12516.
5.	N/A
6.	Stem extension length as per relevant MTO. Stem extension housing shall be rigidly mounted to valve body The stem extension casing shall be equipped with a device to release pressure in case of leakage from the stem sealing system.
7.	This Data Sheet relates to Desfa Specifications for Plug Valves≥50 "DSF-SPC-PIP-024" and Manual Valve Operators "DSF-SPC-PIP-037".

Valve Code	XPV60M
Valve Description	**Plug Valves < 8" - class 600 - BW - LT**
Tag No.	**XPV-xxxx**

Venturi pattern, pressure balanced, lubricated taper plug with anti-friction coating, fire safe design.

GENERAL DATA	VALVE SIZE RANGE	**2" (DN50) ≤ NPS < 8" (DN 200)**					
	VALVE PRESSURE CLASS	**#600**					
	VALVE TYPE	**Plug - Double Block and Bleed - Venturi pattern.**					
	VALVE END CONFIGURATION	**Butt Weld / Butt Weld (Butt Weld End - Pupped)**					**Note 3**
	VALVE SERVICE	**Sweet Natural Gas with sporadic passage of water and glycol. Hydrogen blend up to 100%.**					
	VALVE BORE (FULL / REDUCED)	**N/A**					
	INSTALLATION	**Below Ground (UG), Direct Buried**					
	BODY DESIGN	**Fully Welded**					
	FLOW	**Bidirectional**					
DESIGN DATA	DESIGN PRESSURE (barg)	MINIMUM:	**Full Vacuum**	MAXIMUM:	**80**		
	DESIGN TEMPERATURE (°C)	MINIMUM:	**-40**	MAXIMUM:	**+80**		**Note 2**
	VALVE OPERATION	**Handweel or lever / Handwheel and Gear Box for valves ≥ 6"**					**Note 7**
	VENT CONNECTION	**N/A**					
	DRAIN CONNECTION	**N/A**					
	PRESSURE RELIEF CONNECTION	**N/A**					
	SEALANT INJECTION CONNECTION	**Required**					
	SUPPORT LEGS / FEET	**N/A**					
	LIFTING EYES	**Required for valves ≥ 6"**					
	LOCKING FACILITY	**Required for valves ≥ 4"**					
	MARKING / TAGGING	**Required, as per DESFA Specification**					**Note 7**
	POSITION INDICATOR	**Required, as per DESFA Specification**					**Note 7**
	IMPACT TEST TEMPERATURE	**Minimum Design Temperature, as per Project Specification and EN 14141**					**Note 7**
	SURFACE TREATMENT	**In accordance with DESFA Specification**					**Note 7**
	FIRE SAFE DESIGN	**As per API 6FA / EN ISO 10497**					
MATERIALS	BODY	**Fully Killed Fine Grain Carbon Steel P275NL1 (1.0488)**					**Note 4**
	COVER/BONNET	**Fully Killed Fine Grain Carbon Steel P275NL1 (1.0488)**					**Note 4**
	GATE	**N/A**					
	BALL	**N/A**					
	PLUG	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRIM	**N/A**					
	SEALS	**Dual Slip Seals - Viton - Manufacturer to confirm/advise for service**					**Note 1, 2**
	GASKETS	**N/A**					
	STEM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRUNNION	**N/A**					
	SEAT/RINGS	**N/A**					
	STEM SEAL	**Viton / 316 / Graphite**					**Note 2,6**
	BOLTING	**N/A**					
CODES & STANDARDS	DESIGN	**EN 1594 / EN 13942 / EN 14141 / API 6D / EN 12266-1 / PED 2014/68/EU/ ASME B31.12 PL Option A**					
	DIMENSIONS	**EN 13942 / EN 14141 / API 6D**					
	FLANGE DIMENSIONS	**N/A**					
	WELD END DIMENSIONS	**EN 12627**					
	CERTIFICATION	**EN 10204 type 3.1**					
	FIRE TEST	**EN 14141 / EN ISO 10497**					
	HYDROSTATIC TEST	**EN 14141**					**Note 1**

NOTES	
1.	An additional leak test, with helium as the test medium, shall be carried out after the hydraulic test at 1.1 times rated pressure as API 6D Annex H, para. H4. The test duration shall be as per Table H.1.
2.	Seals to be suitable for 80°C. Stem to be anti blowout. Seals material shall be suitable or 100% of H2, as per Manufacturers recommendations. Stem seals shall be fugitive emission tested in accordance with ISO 15848-2. Test shall be carried out at both ambient and maximum design pressure with helium as fluid. The fugitive emission tightness class shall be BH
3.	Butt weld end to be pupped. Minimum pup length 500 mm, to be confirmed by vendor. Pup material, wall thickess and internal / external coating shall be same as for the abutting pipe, as per DSF-1105301-1663-SPC-PLN-101 - Piping Classes Specification. Pup material shall comply with ASME B31.12, Part PL option A requirements regarding material properties and wall thickness.
4.	Materials per EN 14141 / EN 12516.
5.	N/A
6.	Stem extension length as per relevant MTO. Stem extension housing shall be rigidly mounted to valve body The stem extension casing shall be equipped with a device to release pressure in case of leakage from the stem sealing system.
7.	This Data Sheet relates to Desfa Specifications for Plug Valves≥50 "DSF-SPC-PIP-024" and Manual Valve Operators "DSF-SPC-PIP-037".

Valve Code	XGV60L
Valve Description	**Gate Throttling Valves ≥ 8" - class 600 - BW - LT**
Tag No.	**XGV-xxxx**

Slab type, Through Conduit, Double seated floating seats, Throttling, Double Block and Bleed, Non Rising Stem, fire safe design.

GENERAL DATA	VALVE SIZE RANGE	**8" (DN200) ≤ NPS ≤ 12" (DN 300)**					
	VALVE PRESSURE CLASS	**#600**					
	VALVE TYPE	**Gate, Slab type, Double block and bleed, Throttling.**					
	VALVE END CONFIGURATION	**Butt Weld / Butt Weld (Butt Weld End - Pupped)**					**Note 3**
	VALVE SERVICE	**Sweet Natural Gas with sporadic passage of water and glycol. Hydrogen blend up to 100%.**					
	VALVE BORE (FULL / REDUCED)	**Full Port**					
	INSTALLATION	**Below Ground (UG), Direct Buried**					
	BODY DESIGN	**Fully Welded**					
	FLOW	**Bidirectional**					
DESIGN DATA	DESIGN PRESSURE (barg)	MINIMUM:	**Full Vacuum**	MAXIMUM:	**80**		
	DESIGN TEMPERATURE (°C)	MINIMUM:	**-40**	MAXIMUM:	**+80**		**Note 2**
	VALVE OPERATION	**Handwheel, Gear Operator Required**					**Note 7**
	VENT CONNECTION	**1" Valved and plugged, welded to the body**					**Note 9**
	DRAIN CONNECTION	**1" Valved and plugged, welded to the body**					**Note 9**
	PRESSURE RELIEF CONNECTION	**Required**					**Note 5**
	SEALANT INJECTION CONNECTION	**Required**					**Note 9**
	SUPPORT LEGS / FEET	**Required**					
	LIFTING EYES	**Required**					
	LOCKING FACILITY	**Required**					
	MARKING / TAGGING	**Required, as per DESFA Specification**					**Note 7**
	POSITION INDICATOR	**Required, as per DESFA Specification**					**Note 7**
	IMPACT TEST TEMPERATURE	**Minimum Design Temperature, as per Project Specification and EN 14141**					**Note 7**
	SURFACE TREATMENT	**In accordance with DESFA Specification**					**Note 7**
	FIRE SAFE DESIGN	**As per API 6FA / EN ISO 10497**					
MATERIALS	BODY	**Fully Killed Fine Grain Carbon Steel P355NL1 (1.0566)**					**Note 4**
	COVER/BONNET	**Fully Killed Fine Grain Carbon Steel P355NL1 (1.0566)**					**Note 4**
	GATE	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					**Note 8**
	BALL	**N/A**					
	PLUG	**N/A**					
	TRIM	**N/A**					
	SEALS	**Sealant - Manufacturer to propose for service**					**Note 1, 2**
	GASKETS	**N/A**					
	STEM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRUNNION	**N/A**					
	SEAT/RINGS	**Double seated floating seats, metal to metal with resilient inserts.**					
	STEM SEAL	**Dual O-rings or special design of equivalent or better quality.**					**Note 2,6**
	BOLTING	**N/A**					
CODES & STANDARDS	DESIGN	**EN 1594 / EN 13942 / EN 14141 / API 6D / EN 12266-1 / PED 2014/68/EU/ ASME B31.12 PL Option A**					
	DIMENSIONS	**EN 13942 / EN 14141 / API 6D**					
	FLANGE DIMENSIONS	**N/A**					
	WELD END DIMENSIONS	**EN 12627**					
	CERTIFICATION	**EN 10204 type 3.2**					
	FIRE TEST	**EN 14141 / EN ISO 10497**					
	HYDROSTATIC TEST	**EN 14141**					**Note 1**

NOTES	
1.	An additional leak test, with helium as the test medium, shall be carried out after the hydraulic test at 1.1 times rated pressure as API 6D Annex H, para. H4. The test duration shall be as per Table H.1.
2.	Seals to be suitable for 80°C. Stem to be anti blowout. Seals material shall be suitable or 100% of H2, as per Manufacturers recommendations. Stem seals shall be fugitive emission tested in accordance with ISO 15848-2. Test shall be carried out at both ambient and maximum design pressure with helium as fluid. The fugitive emission tightness class shall be BH
3.	Butt weld end to be pupped. Minimum pup length 500 mm, to be confirmed by vendor. Pup material, wall thickess and internal / external coating shall be same as for the abutting pipe, as per DSF-1105301-1663-SPC-PLN-101 - Piping Classes Specification. Pup material shall comply with ASME B31.12, Part PL option A requirements regarding material properties and wall thickness.
4.	Materials per EN 14141 / EN 12516.
5.	Pressure relief connection shall be extended to a level close to the valve operator and shall be valved with plug valve class 1500 with metallic sealing mounted by welding directely to the ball valve body and fitted with a threaded solid hexagonal head plug.
6.	Stem extension length as per relevant MTO. Rising stem shall be in a dustproof enclosure,rigidly mounted to valve body. The stem extension casing shall be equipped with a device to release pressure in case of leakage from the stem sealing system.
7.	This Data Sheet relates to Desfa Specifications for Gate Valves≥50 (Shut-Off) - "DSF-SPC-PIP-027" and Manual Valve Operators "DSF-SPC-PIP-037".
8.	Manufacturer shall advise on seat & disk materials to achieve durability against throttling wear.
9.	The connection shall extend to surface/ground level near valve operator, with two block valves, Class 1500, mounted on the valve body and at the free end, respectively.

Valve Code	XGV60M
Valve Description	**Gate Throttling Valves < 8" - class 600 - BW - LT**
Tag No.	**XGV-xxxx**

Slab type, Through Conduit, Double seated floating seats, Throttling, Double Block and Bleed, Non Rising Stem, fire safe design.

GENERAL DATA	VALVE SIZE RANGE	**2" (DN50) ≤ NPS < 8" (DN 200)**					
	VALVE PRESSURE CLASS	**#600**					
	VALVE TYPE	**Gate, Slab type, Double block and bleed, Throttling.**					
	VALVE END CONFIGURATION	**Butt Weld / Butt Weld (Butt Weld End - Pupped)**					**Note 3**
	VALVE SERVICE	**Sweet Natural Gas with sporadic passage of water and glycol. Hydrogen blend up to 100%.**					
	VALVE BORE (FULL / REDUCED)	**Full Port**					
	INSTALLATION	**Below Ground (UG), Direct Buried**					
	BODY DESIGN	**Fully Welded**					
	FLOW	**Bidirectional**					
DESIGN DATA	DESIGN PRESSURE (barg)	MINIMUM:	**Full Vacuum**	MAXIMUM:	**80**		
	DESIGN TEMPERATURE (°C)	MINIMUM:	**-40**	MAXIMUM:	**+80**		**Note 2**
	VALVE OPERATION	**Handwheel, Gear Operator Required**					**Note 7**
	VENT CONNECTION	**Plugged according to manufacture standard.**					**Note 9**
	DRAIN CONNECTION	**Plugged according to manufacture standard.**					**Note 9**
	PRESSURE RELIEF CONNECTION	**Required**					**Note 5**
	SEALANT INJECTION CONNECTION	**Required**					**Note 9**
	SUPPORT LEGS / FEET	**N/A**					
	LIFTING EYES	**Required for valves ≥ 6"**					
	LOCKING FACILITY	**Required for valves ≥ 4"**					
	MARKING / TAGGING	**Required, as per DESFA Specification**					**Note 7**
	POSITION INDICATOR	**Required, as per DESFA Specification**					**Note 7**
	IMPACT TEST TEMPERATURE	**Minimum Design Temperature, as per Project Specification and EN 14141**					**Note 7**
	SURFACE TREATMENT	**In accordance with DESFA Specification**					**Note 7**
	FIRE SAFE DESIGN	**As per API 6FA / EN ISO 10497**					
MATERIALS	BODY	**Fully Killed Fine Grain Carbon Steel P275NL1 (1.0488)**					**Note 4**
	COVER/BONNET	**Fully Killed Fine Grain Carbon Steel P275NL1 (1.0488)**					**Note 4**
	GATE	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					**Note 8**
	BALL	**N/A**					
	PLUG	**N/A**					
	TRIM	**N/A**					
	SEALS	**Sealant - Manufacturer to propose for service**					**Note 1, 2**
	GASKETS	**N/A**					
	STEM	**X5CrNiM017-12-2 (SS 1.4401) or equivalent**					
	TRUNNION	**N/A**					
	SEAT/RINGS	**Double seated floating seats, metal to metal with resilient inserts.**					
	STEM SEAL	**Dual O-rings or special design of equivalent or better quality.**					**Note 2,6**
	BOLTING	**N/A**					
CODES & STANDARDS	DESIGN	**EN 1594 / EN 13942 / EN 14141 / API 6D / EN 12266-1 / PED 2014/68/EU/ ASME B31.12 PL Option A**					
	DIMENSIONS	**EN 13942 / EN 14141 / API 6D**					
	FLANGE DIMENSIONS	**N/A**					
	WELD END DIMENSIONS	**EN 12627**					
	CERTIFICATION	**EN 10204 type 3.1**					
	FIRE TEST	**EN 14141 / EN ISO 10497**					
	HYDROSTATIC TEST	**EN 14141**					**Note 1**

NOTES	
1.	An additional leak test, with helium as the test medium, shall be carried out after the hydraulic test at 1.1 times rated pressure as API 6D Annex H, para. H4. The test duration shall be as per Table H.1.
2.	Seals to be suitable for 80°C. Stem to be anti blowout. Seals material shall be suitable or 100% of H2, as per Manufacturers recommendations. Stem seals shall be fugitive emission tested in accordance with ISO 15848-2. Test shall be carried out at both ambient and maximum design pressure with helium as fluid. The fugitive emission tightness class shall be BH
3.	Butt weld end to be pupped. Minimum pup length 500 mm, to be confirmed by vendor. Pup material, wall thickess and internal / external coating shall be same as for the abutting pipe, as per DSF-1105301-1663-SPC-PLN-101 - Piping Classes Specification. Pup material shall comply with ASME B31.12, Part PL option A requirements regarding material properties and wall thickness.
4.	Materials per EN 14141 / EN 12516.
5.	Pressure relief connection shall be extended to a level close to the valve operator and shall be valved with plug valve class 1500 with metallic sealing mounted by welding directely to the ball valve body and fitted with a threaded solid hexagonal head plug.
6.	Stem extension length as per relevant MTO. Rising stem shall be in a dustproof enclosure,rigidly mounted to valve body. The stem extension casing shall be equipped with a device to release pressure in case of leakage from the stem sealing system.
7.	This Data Sheet relates to Desfa Specifications for Gate Valves≥50 (Shut-Off) - "DSF-SPC-PIP-027" and Manual Valve Operators "DSF-SPC-PIP-037".
8.	Manufacturer shall advise on seat & disk materials to achieve durability against throttling wear.
9.	The connection shall extend to surface/ground level near valve operator, with two block valves, Class 1500, mounted on the valve body and at the free end, respectively.