

LUCIFER®

2/2 and 3/2 Solenoid Control Valves

*316 Stainless Steel for petrochemical,
chemical and offshore applications*

Catalogue 8653/GB



© Photo Oyvind Hagen, Statoil



Heavy duty, corrosion resistant for hazardous location

Extremely severe operating conditions prevailing on North Sea offshore platforms combined with high safety requirements due to hazardous location conditions, require design features not generally found in conventional solenoid valves.

The 316 stainless steel range solenoid valves described in this bulletin is the result of several years cooperation between the North Sea offshore industry, Haakon Ellingsen A/S and Parker Lucifer SA, a worldwide leader in design and development of high technology solenoid valves.

The valves are manufactured against a severe Quality Assurance and Materials traceability program. They are supplied with corresponding certificates.

Used or specified as actual control or fail-safe valves with either CENELEC encapsulated increased safety or intrinsically safe electrical parts, the valves offer today the ultimate in quality, reliability and safety.



Photo courtesy: Statoil



Photo courtesy: Haakon Ellingsen

Products Reference

Ekofisk (*Philips*)
 Gannet (*Shell*)
 Gulfks A, B, C (*Statoil*)
 Heidrun (*Conoco/Statoil*)
 Karstø (*Statoil*)
 Kittiwake (*Shell*)
 Mongstat (*Statoil*)
 Sleipner A (*Statoil*)
 Sleipner Vest (*Statoil*)
 Snorre (*Statoil*)
 Statfjord A, B, C (*Statoil/Mobil*)
 Tern (*Shell*)
 Troll Gas (*Shell/Statoil*)
 Troll Lang (*Shell/Statoil*)
 Troll Oil (*Norsk Hydro*)
 Veslefrikk (*Statoil*)

Applications

- Control of the actuator of a on/off main valve.
- Fail-safe function of a main on/off or modulating valve, the main valve resumes its safe position in case of current failure. Fail-safe valves are either electrically (U133X) or manually (U033X) reset.

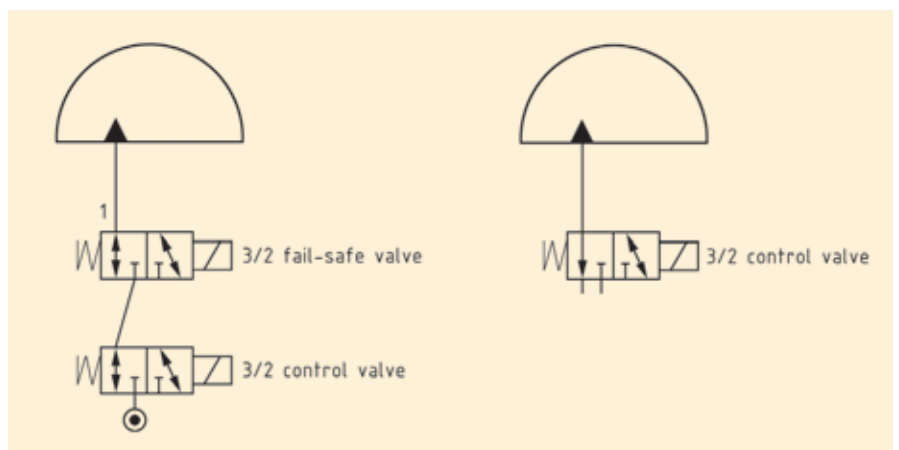
Hazardous locations

Several optional electrical parts, certified to operate in hazardous locations are available to control valves according to the electrical part/valve compatibility chart (page 7).

Corrosion resistance

These valves have been specifically designed for use in corrosive environments (marine, salt spray, etc.).

3/2 Solenoid valves normally closed and universal function. For actuator control and fail-safe function in corrosive and hazardous locations.



Technical data

Common features

Poppet design, Viton, PUR, seat discs.

Safe body working pressure:

10500 kPa for F and V types
2000 kPa for X type

Direct pipe mounting:

V and X types

Sub-base mounting:

F type

Mouting position:

Indifferent

Body material:

316L stainless steel

Valve trim material:

Buna (NBR), Viton (FKM),
Polyurethan

Seat discs material:

Stainless steel and
polyamid-imid

Medium:

Instrument or industrial air,
dry or lubricated, nitrogen
(121V type)

Filtration:

50 μ or better

Technical datasheets

For full technical details please ask for:

- Electrical Parts overview brochure, Catalogue 8700/GB
- Certificates, maintenance and operating instructions are also available for each specific product.

Basic models

3/2 Solenoid valves, direct operated, normally closed

U131F 5695

U131F 5695 1D

Nominal diameter: 2.5 mm
Flow Qn: 220 NL/min.
P max.: 1000 to 1400 kPa
Sub-base mounting



2/2 Solenoid valves direct operated, normally closed

U121V 5595
U121V 5596
U121V 5596 1D

Nominal diameter: 1.0 mm
Flow Qn: 40 NL/min.
P max.: 9800 kPa
Connection: 1/4 NPT

3/2 Solenoid valves direct operated, universal

U133V 5695
U133V 5695 1D

Nominal diameter: 2.5 mm
Flow Qn: 220 NL/min.
P max.: 850 to 1400 kPa
Connection: 1/4 NPT



3/2 Solenoid valves direct operated, universal

U133X 5156
U133X 5196
U133X 5196 1D

Nominal diameter: 5.0 mm
Flow Qn: 680 NL/min.
P max.: 1000 kPa
Connection: 1/4 NPTF



3/2 Universal solenoid valves with manual reset

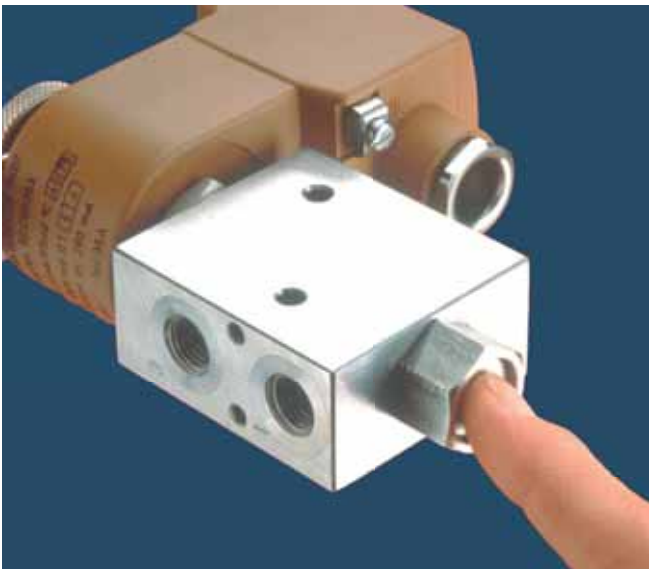
U033X 5156
U033X 5156 1D

Nominal diameter: 5.0 mm
Flow Qn: 680 NL/min.
P max.: 1000 kPa
Connection: 1/4 NPTF

These valves close when the electrical signal fails.

When the electrical signal comes back, the valve remains closed, it has to be reset manually.

If the coil is not energized, the valve can be opened by actuating the manual reset button (manual override function), but the valve remains open only when the coil is energized and the reset button has been pushed.



Quality

Quality Assurance

Each valve carries its own identification number. It is sent out from the factory with a Quality Assurance Certificate ensuring the following:

Strategic Parts Identification

- Strategic parts, i.e. parts which are directly involved in the valving process are identified.
- Materials traceability of all identified parts is assured back to source.
- Identified stainless steel parts have either a DIN 50049.3.1b certificate or a supplier's attest.

Final Test Certificate

Confirms correct valve function at rated minimum and maximum pressures.

- External and internal leakage rates.
- Correct valve function at specified electrical rating.

SQS Certificate

The Swiss Association for Quality Assurance Certificates (SQS) has issued a SQS Certificate in the ISO 9001/14001 category, certifying that Parker Lucifer is maintaining a Quality Assurance system which meets the above mentioned international standards.



Compatibility Chart

	Intrinsically safe				Flameproof enclosures		Encapsulation increased safety			
	EEx ia IIB T6	EEx ib IIB T6	EEx ia IIC T6	EEx ib IIC T6	EEx ia IIC T6		EEx me II T4 to T6			
	482160.01	482660.01	482870.01	483330.01	492965.01	492965.02	483270	483270.02	492310	492210
U121V 5595		✓		✓	✓	✓				✓
U121V 5596									✓	
U121V 5596 1D							✓	✓		
U131F 5695		✓		✓	✓				✓	✓
U131F 5695 1D							✓	✓		
U133V 5695		✓		✓	✓				✓	✓
U133V 5695 1D							✓	✓		
U133X 5156/5196		✓		✓	✓	✓			✓	✓
U133X 5156 1D/5196 1D							✓	✓		
U033X 5156	✓		✓						✓	
U033X5156 1D							✓	✓		
CENELEC Standard	EN 50014/50020				EN 50014/50018		EN 50014/50019			
Certificate of conformity	LCIE 02 ATEX 6066X				LCIE 02 ATEX 6008X		LCIE 02 ATEX 6023X			
Enclosure's degree of protection	IP 66				IP 65 ¹⁾		IP 66 ¹⁾			
Max admissible surface temperature of enclosure	85 °C				100 °C		85 °C to 135 °C			
Electrical power consumption	0.8 W DC			0.3-2.3 W DC		8 W AC, DC		6 W	1 to 1.5 W	
Cable entry	M20 x 1.5				M20 x 1.5 1/2 NPT		M20 x 1.5			
Weight	500 g				1100 g		500 g			

¹⁾ When mounted with appropriate EEx cable gland



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