

The iVapps System – General information

The iVapps plug valve body, or PORTAL, houses the stainless steel VALVE or SMART Cartridges. Manufactured with flanges according to ASME B16.10., the PORTAL is available in two materials: Ductile Iron with a 350 microns WRAS approved epoxy coating or Stainless Steel.

SMART Cartridge

The iVapps SMART Cartridge is designed for installation in the iVapps PORTAL. It consists of an acetal chamber, stainless steel tube and a lid. The acetal chamber houses sensors to monitor flow, pressure, and temperature. The sensor is connected to the data transmission equipment via wires housed within the steel tube. The data transmission equipment is housed within the black box on top of the cartridge.

The SMART Cartridge is also available in a non-pressured version. Contact iVapps for more information.

Benefits

- It can be used to measure different parameters in the pipeline such as flow rate, pressure, temperature etc.
- Data is transmitted in real time to the iVapps' proprietary dashboard or the end users' own data delivery system.
- Can be swapped with ease in less than 30 minutes.
- Houses different sensors in one unit.

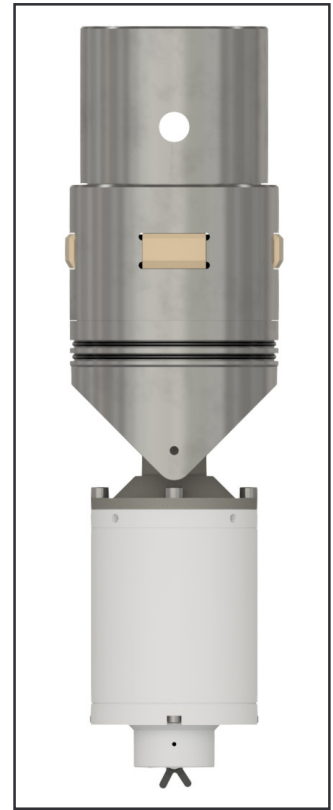
Principal of Operation

For Data collection, SMART cartridge is fitted inside the PORTAL to determine flow conditions inside the pipeline. It houses various sensors to measure different parameters such as flow rate, pressure, and temperature. When flow passes through the pipe, magnets installed in the rotor of flow sensor pass by pulse sensors within the transducer body and it produces frequency outputs proportional to flow rate. Pressure and temperature sensors also detect corresponding measurements. Collected data is transmitted via a black box communication unit to the iVapps proprietary dashboard, or the end users' own system in real time.

Specifications

General Description **SMART Cartridge**

Application Water pipelines used with a range of industries and applications



Physical

- | | | |
|-------------------------|--|------------------------------|
| 1. Model | SC100, SC150 | |
| 2. Sizes | 4" (100 mm), 6" (150mm) | |
| 3. Materials | Stainless Steel (UNS S21600 / Grade 316) with Acetal | |
| 4. O Rings Seals | EPDM | |
| 5. Sensors | Dual Pulse Flow Transducer | 0.3~10 metres/sec (velocity) |
| | UPX19-1 Digital Pressure Sensor | 0~16 bars / PN16 |
| | Rigid Stem Resistance Thermometer | -75°C to 250°C |

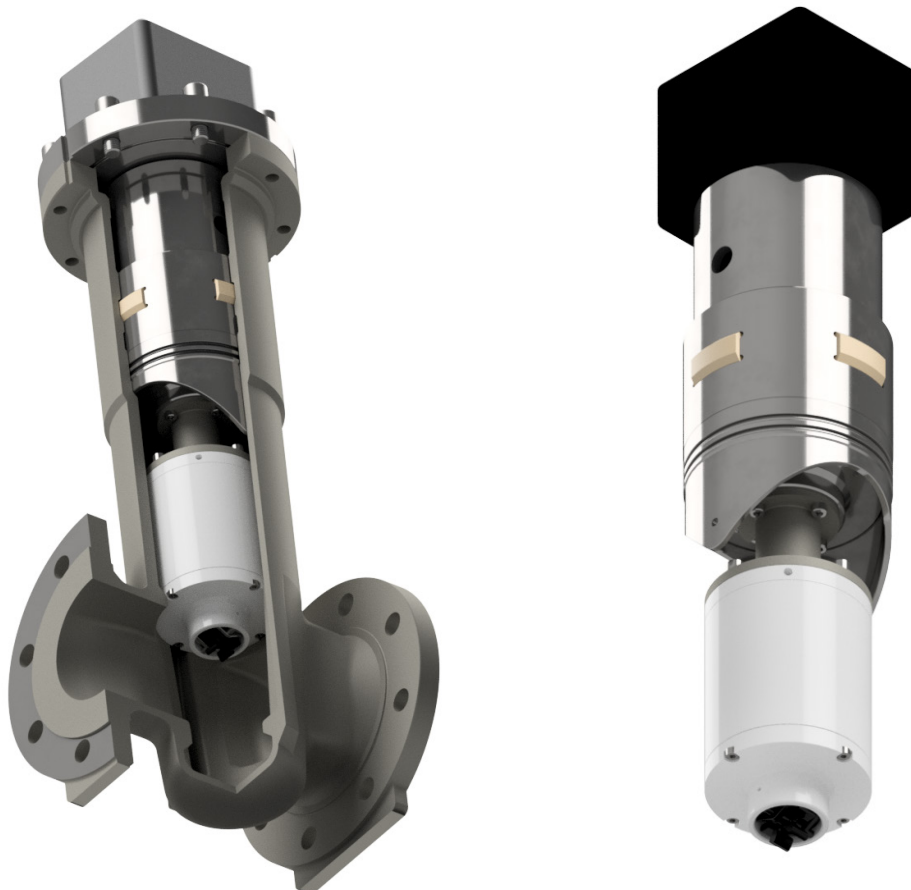
Operating Conditions

- | | |
|-------------------------|--|
| Temperature | 0°C to 50°C / 32 °F to 122 °F |
| Flow rate | DN100 2.43 litres/sec ~ 81.009 litres/sec
DN150 5.468 litres/sec ~ 182.271 litres/sec |
| Nominal Pressure | 0~ 16 bars / PN16 |
| Environment | Can be installed in manholes or buried in the ground |

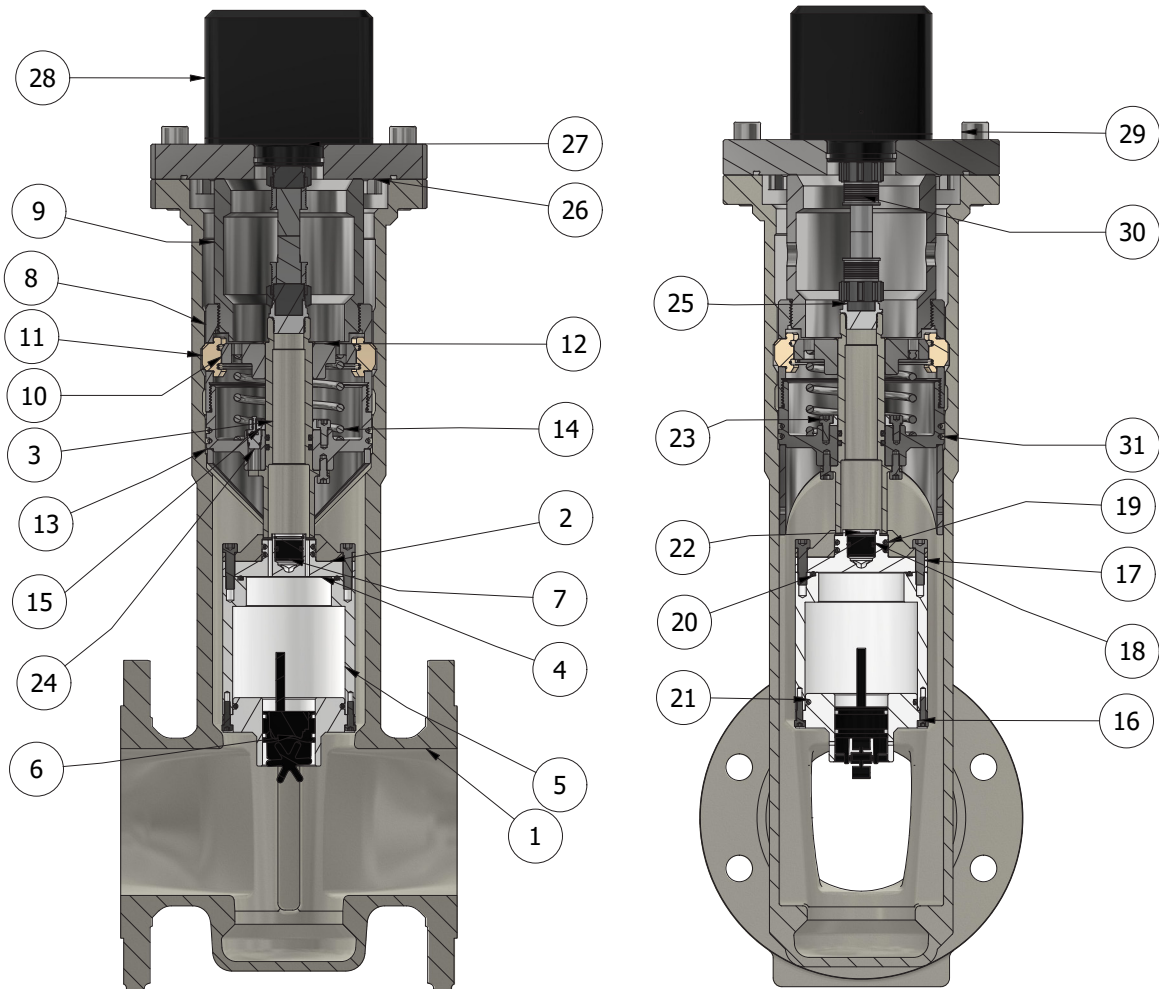
After Sales Support Visit www.ivappstech.com

Warranty 1 year

Testing Standards API 598 and EN12266-1



Standard Assembly of DN100 Pressured VALVE Cartridge



Component List

ITEM NO	PART DESCRIPTION	MATERIAL	QTY
1	PORTAL	EN-GJS-600-3	1
2	WELD FLANGE	UNS S31600	1
3	CONDUIT	UNS S31600	1
4	PRESSURE PAD UPX19	ACETAL	1
5	DRY CHAMBER	ACETAL	1
6	TITAN FLOW METER DP490	SS316	1

Component List cont.

7	FRONT PLATE [TITAN]	ACETAL	1
8	UPX19 PRESSURE TRANSDUCER	SS316	1
9	LOCK BODY	UNS S31600	1
10	FISHING NECK	UNS S31600	1
11	LOCK DOG	PEEK	4
12	SPRING LOCK DOG	UNS S31600	2
13	COLLAR LOCK	BRASS	1
14	SEAL HOUSING [WELDED]	UNS S31600	1
15	SPRING COLLAR	UNS S31600	1
16	COLLAR EQUALISING	UNS S31600	1
17	144-4204 12PIN CONNECTOR [FRONT MOUNT]	POLYMER	1
18	SHCS M14 X 16	A4	4
19	SHCS M16 X 25	A4	4
20	O-RING BSI 45180265-30	EPDM	2
21	O-RING BSI 4518 0295-30	EPDM	2
22	O-RING BSI 4518 0625-30	EPDM	1
23	O-RING BSI 4518 0695-30	EPDM	1
24	CIRCLIP Ø19 BORE	SS316	1
25	SHCS M5 X 12	A4	6
26	M10 STEM VALVE	BRASS	1
27	ENCLOSURE BASE	ACETAL	1
28	ENCLOSURE COVER	ACETAL	1
29	SHCS M12X35	A4	8
30	F-F CONNECTING WIRE ASSY	ACETAL	1
31	O-RING	EPDM	2

Sizes

REFERENCE	HEIGHT (MM)	WIDTH (MM)	DEPTH (MM)	WEIGHT (KG)
PSC100	400	101.50	101.50	6.72
PSC150	618	254	254	11.84