

REGULATING VALVES (PRESSURE REGULATORS) WITH SHUT-OFF FEATURE

DN 350 (14"), 400 (16"), 500 (20"), 600 (24"), 700 (28") mm,

PN 1,6 (16); 2,5 (25); 4,0 (40); 6,3 (63); 8,0 (80) MPa (bar)

APPLICATION

The regulating valves are used in automatic control systems of oil pumping stations.

The regulators are designed to maintain certain pressure values (minimum at the input and maximum at the output of oil pumping station) by means of flow throttling.

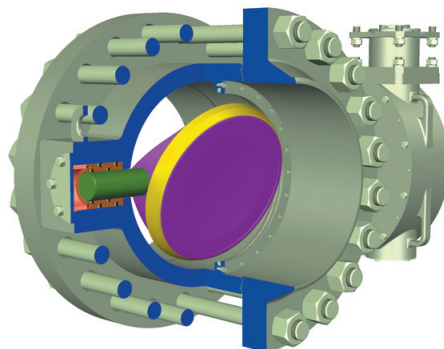
Medium –oil at the temperature from -25 to +100 C°.

Oil may contain mechanical admix in the form of grit and slag max size 5 mm and Moss hardness max 7.

CONSTRUCTIONS RANGE TABLE

DN, mm (inch)	PN, MPa (bar)	Designation	Max pressure difference on the disc ΔP , MPa	Operating medium, temperature, °C	Connection to the pipeline	Type of operating
350 (14)	8,0 (80)	PT99098-350	3,5	-25 ≤ Oil ≤ 100	Wafer type (between pipeline flanges)	Electric drive
	6,3 (63)					
	4,0 (40)					
	2,5 (25)					
	1,6 (16)					
400 (16)	8,0 (80)	PT99098-400	3,5			
	6,3 (63)		5,0			
	4,0 (40)		3,5			
	2,5 (25)		2,5			
	1,6 (16)		1,6			
500 (20)	8,0 (80)	PT99098-500	3,5			
	6,3 (63)		2,5			
	4,0 (40)		1,6			
	2,5 (25)					
	1,6 (16)					
600 (24)	8,0 (80)	PT99098-600	3,5			
	6,3 (63)		2,5			
	4,0 (40)		1,6			
	2,5 (25)					
	1,6 (16)					
700 (28)	8,0 (80)	PT99098-700	3,5			
	6,3 (63)		2,5			
	4,0 (40)		1,6			
	2,5 (25)					
	1,6 (16)					

DESIGN FEATURES

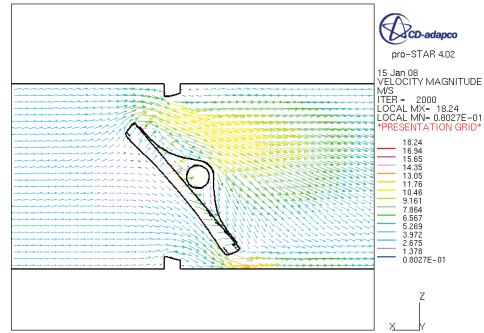


The disc fixed on the shaft is rotated thus increasing or decreasing turn angle and regulating medium flow.

The disc is electrically actuated.

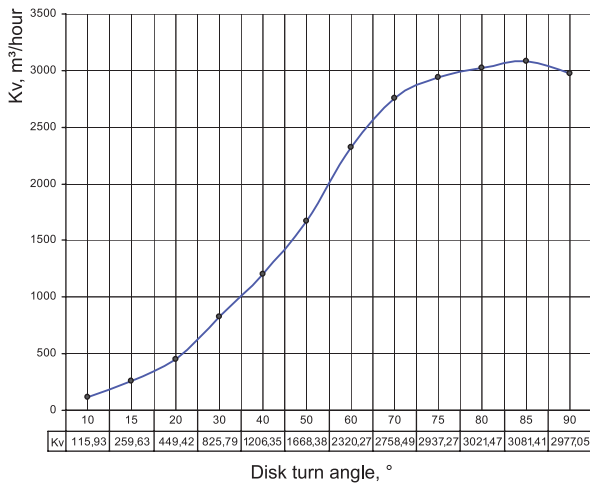
Pressure regulators provide smooth adjustment within the range of disc position 15° to 75° and shut-off function (disc travel ranges from 0° to 90°).

Smooth pressure adjustment is achieved by using special shape the disc designed by "hydrogasdynamic analysis" program STAR-CD.

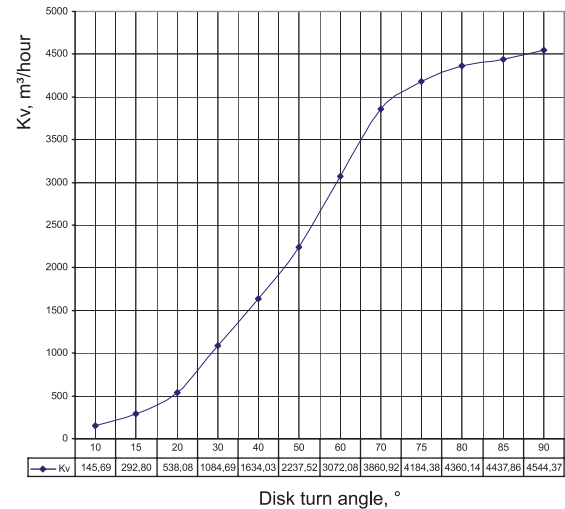


FLOW CHARACTERISTICS OF REGULATOR

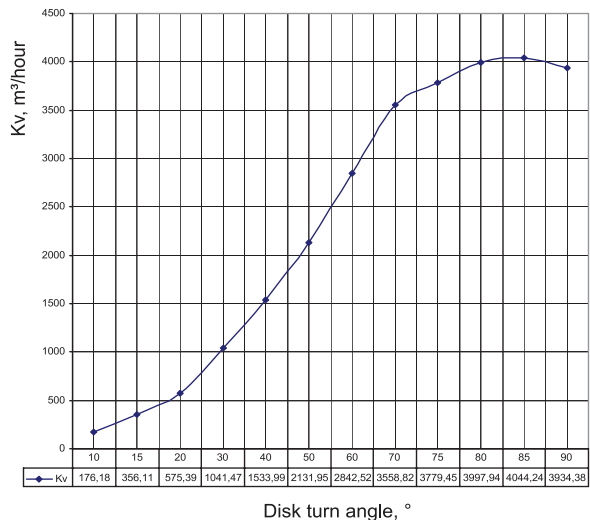
PT99098-350-01, -02, -03, -04, -06



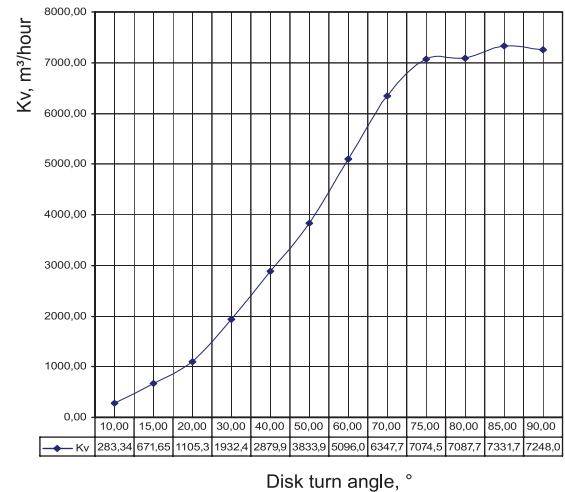
PT99098-400-01, -03, -04, -05, -06



PT99098-400-02



PT99098-400-01, -02, -03, -04, -06



The regulators are earthquake-proof and can provide reliable performance under seismic load of 7 MSK-64 scale; durability and strength under seismic load of up to 9 MSK-64 scale provided max installation height is 10 m.

The regulators are designed to have a run of continuous operation of 8500 hours per annum.

The regulator design provides for the ability to perform multiple (up to 40 within service life) hydraulic pressure tests $P=1.5PN$ (12.0 MPa).

The body parts of the valve (body, cover) are made of cast carbon steel resistant to chemical and temperature effects of line medium.

Due to smaller dimensions and weight it becomes possible to use the regulators in narrow spaces and with minimum number of supports for the pipeline. The yoke is featured with rolling bearings decreasing the effort of the actuator and facilitating valve operation.

ACTUATION

Actuation – manual or E-drive. When desired by Customer the gate valves may be completed with electric drives of Russian or international manufacturers (AUMA, ROTORK, LIMITORQUE, FESTO, etc).

TIGHTNESS

The regulator tightness to the external environment in the gland is provided by rubber gasket.

MOUNTING IN THE PIPELINE

Mounting in the pipeline – following the pointer.

Connection to the pipeline – flanged. When required by Customer, flanged valves may be supplied complete with connection accessories (flanges, gaskets, fasteners).

CLIMATIC SERVICE CONDITIONS

Ambient temperature range: from -60 to + 40°C.

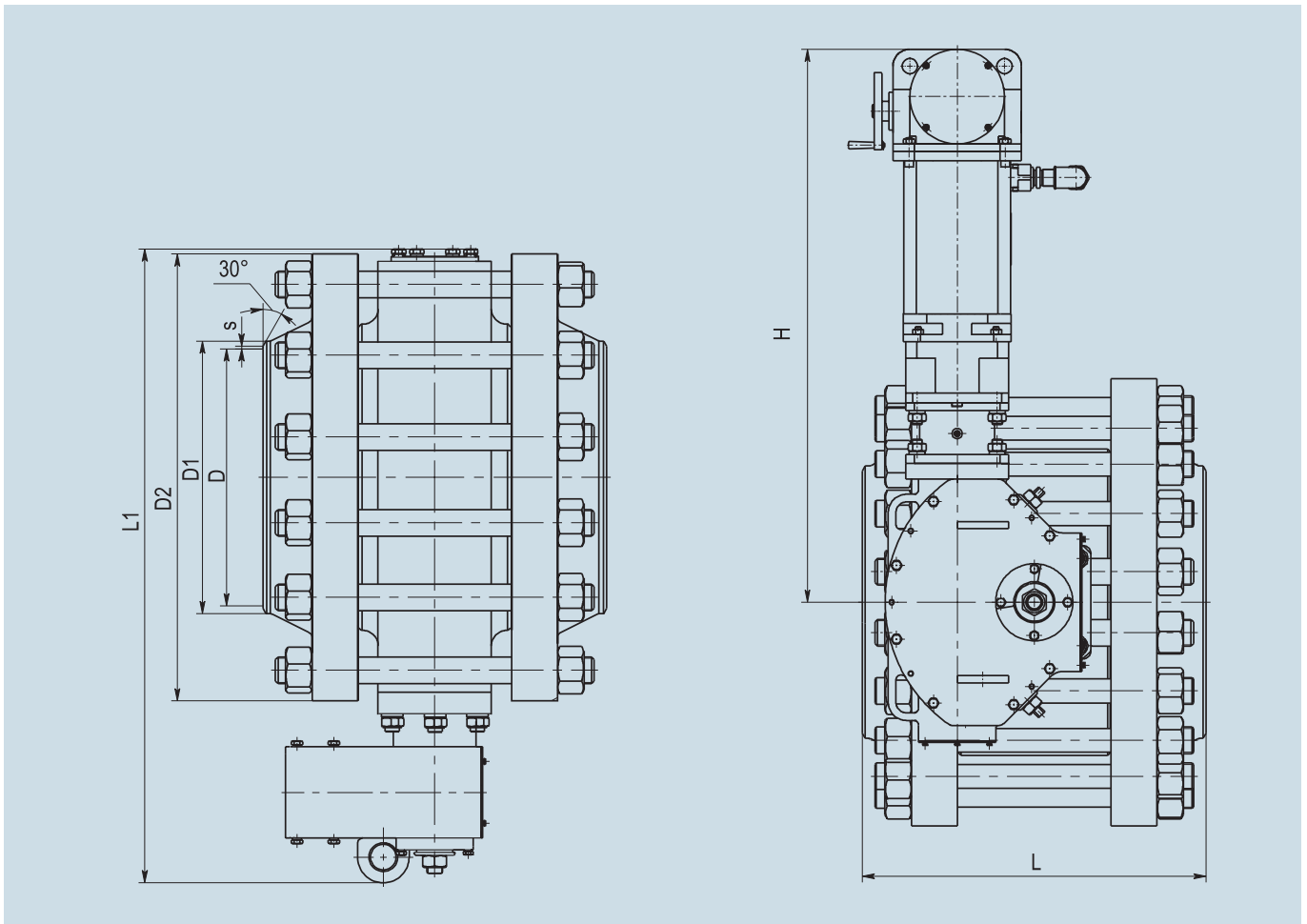
MATERIALS

Name	Material	
	DIN	ASTM
Body	GS-16Mn5. GS-20Mn5	A216 Gr WCC
Disc	GS-16Mn5. GS-20Mn5	A216 Gr WCC
Mating flanges	13Mn6	A350LF2
Shaft	X20CrNi 17.2	A176, A479, AISI 431
Nut	41CrS4	A331, AISI 5140
Pin	24CrMo5, 1.7218	A507, A519
Sleeve	CuAl10Ni5Fe4(2.0966)	C63000
Gasket	Rubber B14	

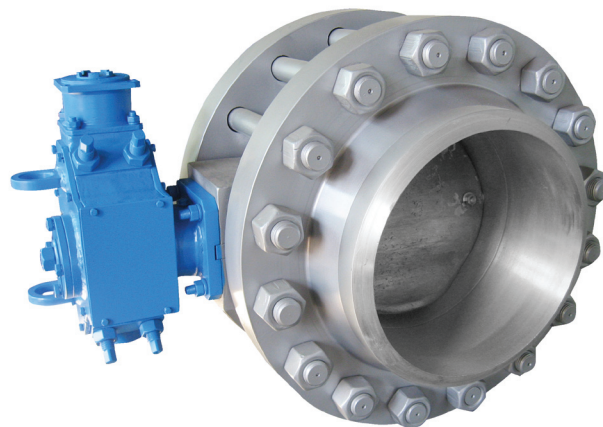
COMPLETE SET OF SUPPLY

Complete set of supply includes: regulator, certificate, technical specification and service manual. Electric actuator, mating flanges with fasteners and gaskets are supplied when required by Customer.

DIMENSIONS AND DRAWING



DN, mm (inch)	PN, MPa (bar)	Designation	Dimensions, mm						Weight including actuator, kg
			L	L1	D1	D2	H	s	
350 (14)	8,0	PT99098-350	576	956	400	665	920	1	705
	6,3; 4,0; 2,5; 1,6								657
400 (16)	8,0	PT99098-400	586	1016	456	715	920	1	880
	6,3; 4,0; 2,5; 1,6								
500 (20)	8,0; 6,3; 4,0; 2,5; 1,6	PT99098-500	669	1253	530	870	1076	5	1436
600 (24)	8,0; 6,3; 4,0; 2,5; 1,6	PT99098-600	708	1384	630	1000	1345	5	2211
700 (28)	8,0; 6,3; 4,0; 2,5; 1,6	PT99098-700	728	1465	730	1060	1345	5	2300



PT99098-400