

Carbon dioxide charging station SZU-800 and SZU-800D.

Carbon dioxide charging station SZU-800 is designed for:

- control over weight of cylinders subjected to filling,
- cylinders filling with liquid carbon dioxide (CO₂) with weight batching,
- filling of cylinders of fire-fighting systems and fire extinguishers with carbon dioxide.

SZU-800D execution consists of two outlet fittings and two weighting units allowing to increase number of cylinders being charged by 15...20%.



Carbon dioxide charging station SZU 800. General view.

1. Filling device; 2. Cylinder to be filled; 3. Outlet hose;
4. Weighting platform; 5. Hydraulic cylinder; 6. Cross bar with safety diaphragm;
7. Gearbox; 8. Fitting "Gas"; 9. Fitting "Liquid"; 10. Weighing indicator.

Pumping unit (designation for order – Hydraulic cylinder KD31.01.00.00) is a double-acting plunger pump, i. e. liquid carbon dioxide intaking and pressurization occurs in the opposite volumes of hydraulic cylinder per each stroke. Pressure and intake valves are of ball type. Sealing on rod and plunger – continuous O-rings made of composite materials (material F4K20 or analogue). The main parts of hydraulic cylinder flow section are made of stainless steel.

The station is equipped with electronic weighing hopper; when the set value of cylinder filling weight is reached, the station pump shall turn off automatically. Designation for order – Weighting unit PVm- 3/150.

To coordinate operation of weighting unit and pump, the module for relay outputs coordination is installed at the station in electrical equipment box. The module allows direct control over starters and single-phase drives with capacity up to 400 VA controlling signals of platform weighting unit PVm. It does not require additional external elements and is included into circuit break of power supply load.



Designation for order – Module for relay outputs coordination.

Pumping unit and pipeline system of station are equipped with protection against emergency excess of operating pressure of station during its operation or staying under pressure – carbon dioxide discharge through safety bursting diaphragm (DN8 mm, Dop 8 mm, Dfull 13.9 mm, for necessary actuation pressure at T= -20°...-35° C, MR type, material – nickel NP-2).



Designation for order of diaphragms for station SZU-800 (SZU-800D) – Bursting diaphragm MR.8, 90...110 kgf/cm².



SPTA* set.

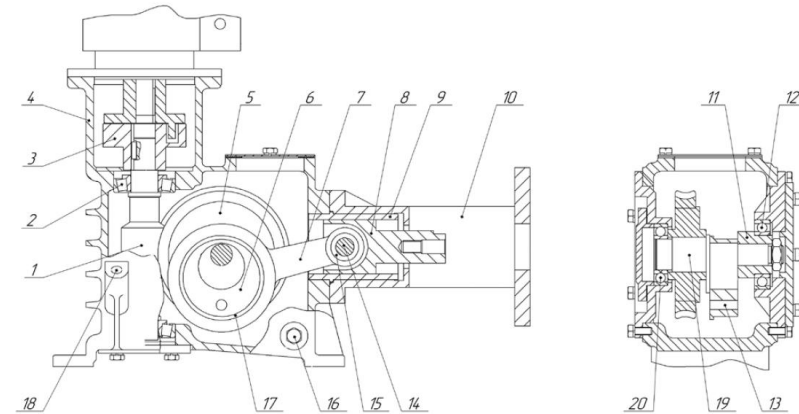
(is included into the supply scope of station SZU-800 (SZU-800D))

Pos.	Identification	Designation	Quantity
1.	KD05.01.00.03	Gasket	5
2.	KD05.01.00.09	Cup	5
3.	010-015-30	Ring GOST 9833-73	2
4.	E 23-045-050	Ring	2
5.	E 22T-020-10	Ring	1
6.	E 06-045-3	Seal	2
7.	059-065-36	Ring GOST 9833-73	1
8.	040-046-36	Ring GOST 9833-73	1
9.	MR.8, 90...110 kgf/cm ²	Bursting diaphragm	3
10.	KD31.03.00.03	Gasket	1

* While ordering SPTA set, it is necessary to specify its scope because it can be changed at the Manufacturer's discretion.

List of spare parts for worm gearbox AR.22.1-02-000-200.

Pos.	Identification	Designation	Material
1.	AR31.1-02-001	Worm	Steel 40X
2.	7307	Bearing TS 37.006.162	-
3.	-	Pin coupling	Steel
4.	-	Body	Cast iron
5.	AR31.1-02-010	Worm wheel	Steel+bronze
6.	AR31-02-032	Eccentric workpiece	Steel
7.	AR31.1-02-020-01	Connecting rod	Steel
8.	AR32-02-006	Sliding bar	Steel
9.	AR31.1-02-03 3-01	Cartridge	Steel
10.	-	Bracket	Cast iron
11.	-	Thrust	Steel
12.	210	Bearing GOST 8338	-
13.	-	Dowel pin	Steel
14.	AR31-02-033	Pin	Steel
15.	AR31-02-053	Sleeve	Bronze
16.	-	Oil drain plug	Steel, paronite
17.	AR31.1-02-052	Plug	Bimetal
18.	-	Oil-level indicator	Steel, paronite
19.	AR31-02-026	Crankshaft	Steel
20.	208	Bearing GOST 8338	-

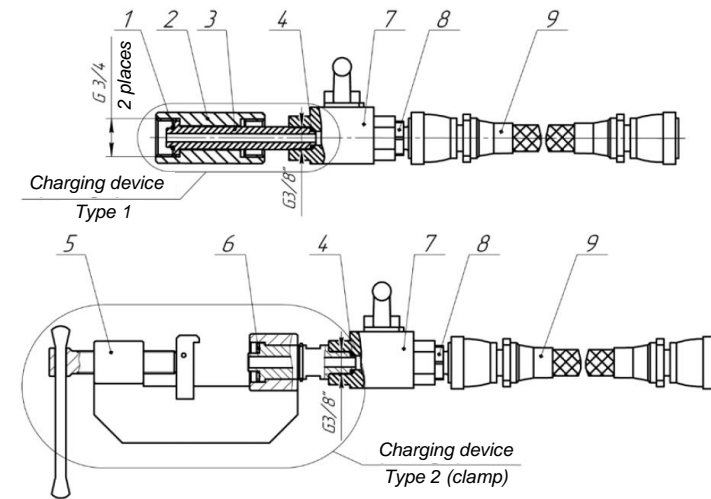


Worm gearbox. General view.

Pump driving is performed using worm gearbox ([designation for order – worm gear motor AR22.1-02-000-200, 3.0 kW, 1500 rpm](#)). It is used for conversion of drive shaft rotation into reciprocal movement of sliding bar.

Outlet hose is designed for connection of charging station with cylinder being charged. It represents high-pressure hose with length of 1.5 m and universal charging device. In standard scope of supply, stations SZU-800 (SZU-800D) are equipped with charging devices of the 1st type. Under additional order – the 2nd type (clamp). [Designation for order – Outlet hose with charging device of the 1st or 2nd type \(clamp\)](#).

Pos.	Identification	Designation	Material
		<i>Charging device, type 1</i>	
1.	010-015-30	Ring GOST 9833-73	Rubber
2.	KD19.00.01.	Sleeve	Brass
3.	KD31.03.00.02	Fitting	Brass
4.	KD31.03.00.03	Gasket	Fluorine plastic F4
		<i>Charging device, type 2 (clamp)</i>	
5.	KD05.06.00.00	Charging clamp	Steel
6.	KD05.06.00.08.	Gasket for vent	Paronite / silicone
7.	GE2	Ball cock, two-way, G3/8", Dn10, Pn500. (or analogue).	Steel
8.	FC DL12 BSPT	Fitting 3/8", body (or analogue)	Steel
9.	RVD	Hose (Dn10 Pn180 L=1500 18x1.5)	-



Outlet hose. General view.

List of spare parts for hydraulic cylinder KD 31.01.00.00.

Pos.	Identification	Designation	Material
1.	KD05.01.00.15	Special-type bolt	Steel
2.	KD05.01.00.13	Special-type nut	Steel
3.	KD05.01.00.14	Cake	Steel
4.	KD05.01.00.16	Plunger	Steel
5.	KD05.01.00.11	Packing nut	Steel
6.	KD05.01.00.12	Barrel	Steel
7.	KD05.01.00.17	Cake	Steel
8.	KD31.01.00.01-01	Outlet fitting	Steel
9.	-	Ball Ø 15.1	Steel
10.	KD05.01.00.02	Seat	Steel
11.	KD05.01.00.03	Gasket	Copper
12.	E23-040-045	Ring	Fluorine plastic F4K20
13.	E06-045-3	Seal	Fluorine plastic F4K20 and rubber
14.	KD05.01.00.07-01	Cylinder	Steel
15.	059-065-36	Ring GOST 9833-73	Rubber
16.	KD05.01.00.04	Head	Steel
17.	KD05.01.00.05-01	Valve fitting	Steel
18.	KD31.01.00.06	Inlet fitting	Steel
19.	E22T-020-20-2	Ring	Fluorine plastic F4K20
20.	KD05.01.00.08	Spacing ring	Steel
21.	KD05.01.00.09	Cup	Fluorine plastic F4K20
22.	040-046-36	Ring GOST 9833-73	Rubber
23.	KD05.01.00.10	Fit ring	Steel

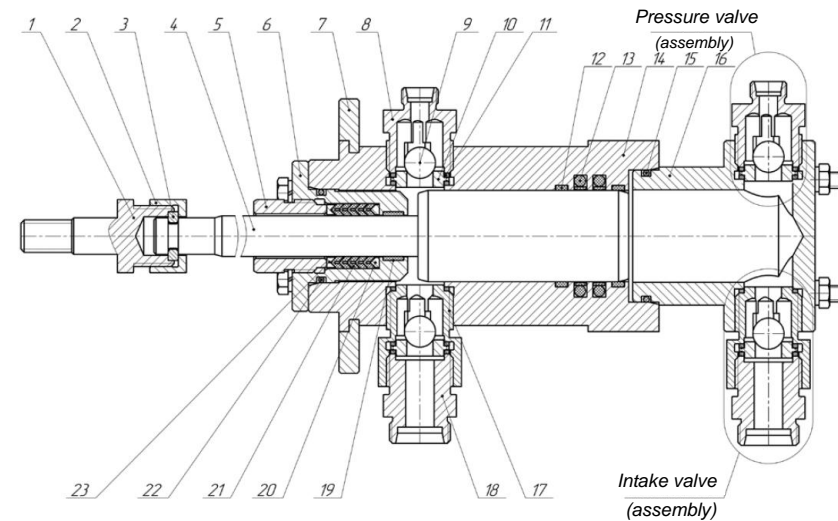
While ordering position "Pressure valve assembly", the following parts are included into the scope of supply:

Pos.	Identification	Designation	Quantity
8.	KD31.01.00.01-01 or KD05.01.00.01*	Outlet fitting	1
9.	-	Ball Ø 15.1	1
10.	KD05.01.00.02	Seat	1
11.	KD05.01.00.03	Gasket	2

While ordering position "Intake valve assembly", the following parts are included into the scope of supply:

Pos.	Identification	Designation	Quantity
9.	-	Ball Ø 15.1	1
10.	KD05.01.00.02	Seat	1
11.	KD05.01.00.03	Gasket	3
17.	KD05.01.00.05-01	Valve fitting	1
18.	KD31.01.00.06 or KD05.01.00.06*	Inlet fitting	1

Fittings KD05.01.00.01 and KD05.01.00.06 have connecting dimensions for mounting of pipelines with rolled tube with angle of 74° as per GOST 28941.12-91. Charging stations SZU-800 (SZU-800D) in this execution had been manufactured before 2012.



Hydraulic cylinder KD31.01.00.00. General view.



Set of valves before 2012.

Set of valves after 2012.