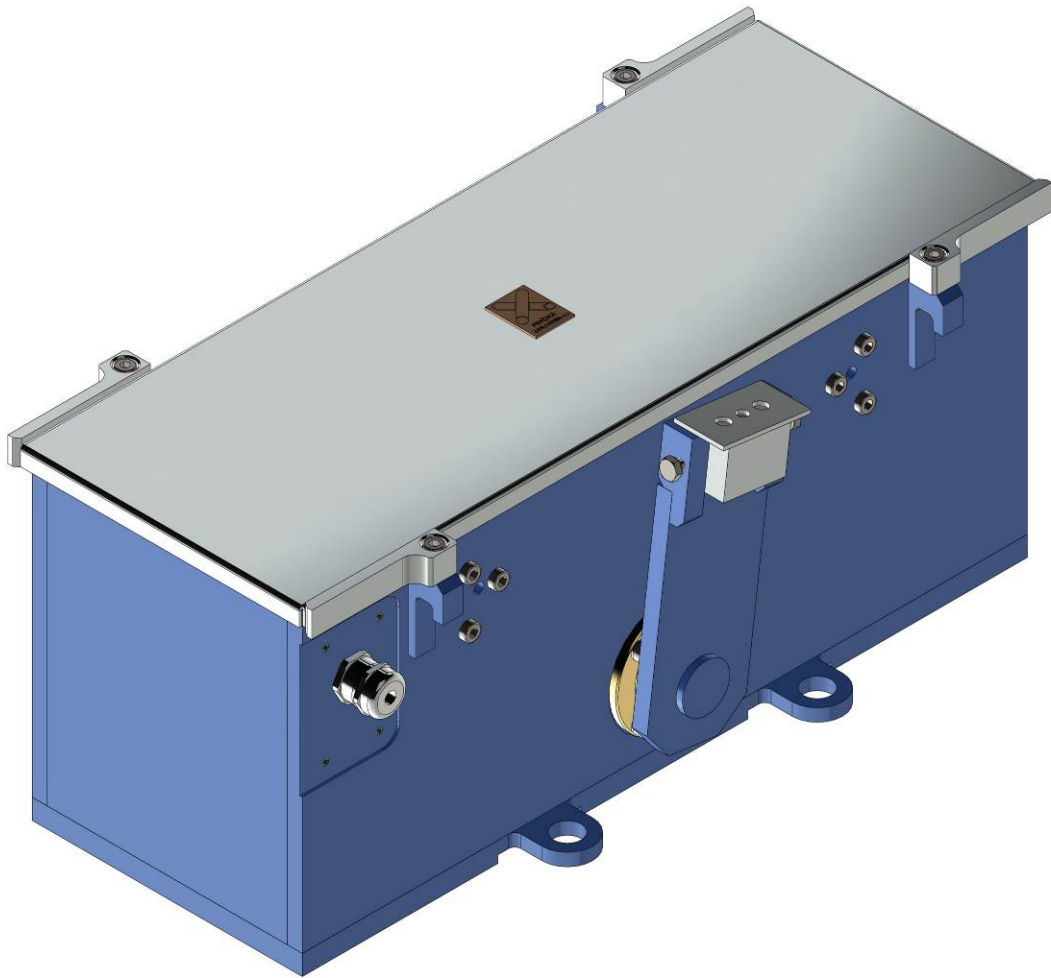


2.2 Drive EHP-41-600V



2.2.1. General description

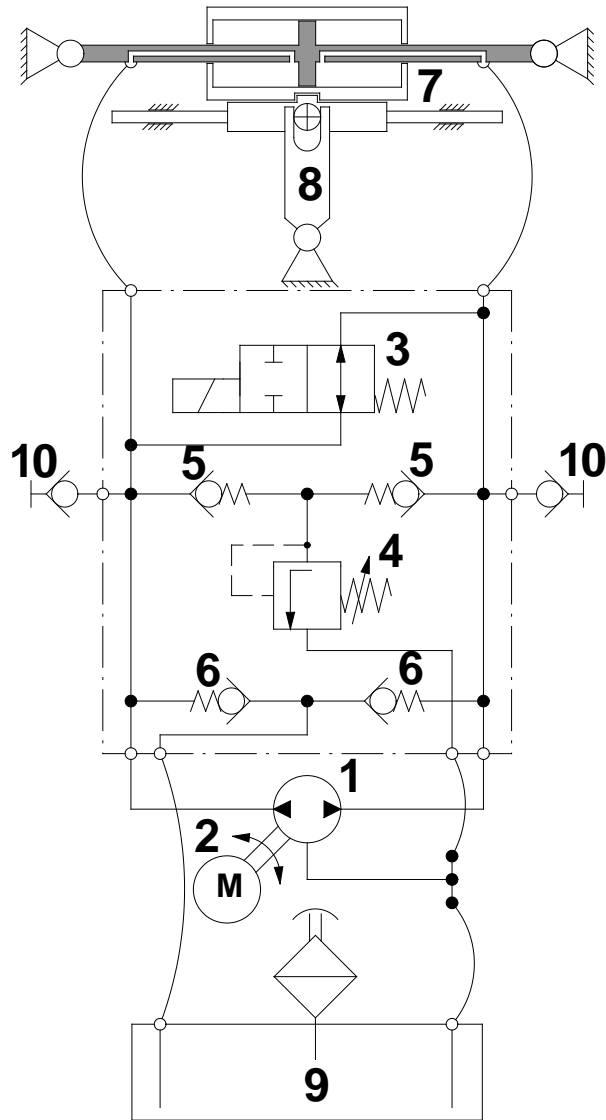
Electro-hydraulic leverage drive EHP-41-600V is a device used for mechanized control of setting systems and thereby to set turnout blades in the required direction. Torque of the output lever is 500 Nm, and maximum swing of the lever is 40 degrees.

2.2.2 Description of operation

Reverse *gear pump* (hydrogenerator) **(1)** is driven by an *electric motor* **(2)** offering an option to change the direction of rotation. Based on the direction of the motor rotation the pump sucks oil through the left or right side and then pushes the oil into the right **(8)** or *left* **(7)** *hydraulic motor chamber*. At the same time when the voltage is fed to the electric motor, voltage is also connected to a *saddle valve* **(3)** which interrupts the shortcut between both chambers in the hydraulic motor. Both branches of the hydraulic system are protected through *one-direction valve* **(6)** and a *safety valve* **(4)** which protects the system against excessive pressure.

The hydraulic system is closed, when one chamber of the hydraulic motor is being filled up, and the oil from the second chamber is pushed out to the intake of the pump. Possible oil losses in the hydraulic system are compensated by drawing additional oil through *one-direction valves* **(5)** from *the tank* **(10)**.

When the system is shut down, an outside force may reset the *lever* **(9)** from one end position to another end position through a free oil flow through the *saddle valve* **(3)**.



2.2.3 Technical parameters

Electric motor	DC motor EM Brno MG 63L-2; 600V DC; 1,7A; 0,53kW
Valve	<i>electromagnetic saddle valve ROE3-042 S6/02400 E1K2; 24 VDC; 1,16A</i>
Pump	<i>gear type: XV-OR/2.3; 2.28cm³.ot⁻¹</i>
Tank volume	0.2 dm ³ - 0.5 dm ³
Operating pressure	7MPa (max 8.5MPa)
Working fluid	up to -25°: OH-HM 32 oil, environment friendly up to -35° ESSO UNIVIS J26 oil
Torque	500 Nm
Angular velocity	30°.s ⁻¹
Swivel angle	40°+4

2.2.4 Reliability parameters

1. Work cycle definition: 1.5 s of operation at operating pressure of 7 MPa , min. 30 s at rest.
Hydraulic fluid temperature 20 to 40 °C.
2. Work cycle frequency: Max. 50 hour⁻¹
3. Service life: 1x10⁶ cycles

2.2.5 Maintenance and operation instruction manual

1. Before turning the system on it is necessary to inspect the oil level in the tank and all electrical connections.
2. It is not allowed to increase safety pressure during operations.
3. The device does not require any special maintenance or operational interventions during its service life.
4. The aggregate and its inner parts are greased by the manufacturer for the entire service life of the device. Outside surfaces of the device must be protected by the user.
5. Regular inspection and maintenance of the setting system is to be done at regular intervals.
6. The equipment may only be transported in the position required for device connection and the packaging unit (pallets) must be labelled with the text "KEEP UPRIGHT, DO NOT TIP OVER".

2.2.5 Protection against rust

Surface of the point machine is painted with MULTIMIX coat and PRIMER DICKSCHICHT and EP-DECKLACK RAL 5012 layer. Inner parts are galvanized with Fe/Zn 20 c C or made from rust-resistant materials.