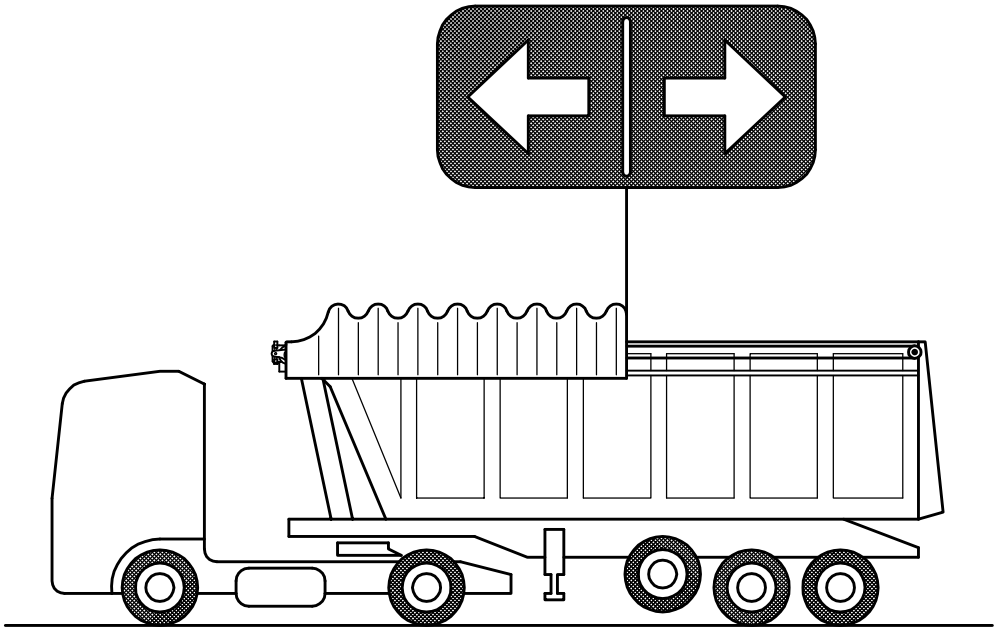
ACCEVAL

ACCESORIOS Y ELEVADORES VALENCIA, S.L.

DRIVE BOX KIT WITH AIR MOTOR FOR TIPPER CANVAS



OCT.–2010

Acceval “CAT”

Function

Pre-assembled drive box kit for tipper canvas powered by an air motor.

Kit elements

* An aluminium box to support the rest of elements and to be installed on the frontal-upper side of tipper by means of six M12 bolts.
* An Acceval MRN-2B reversible air motor.
* Two transmission shafts, mounted over ball bearing supports, from air motor until two lateral leading pulleys.
* Two lateral leading pulleys, with 137 mm internal diameter, for 6 mm steel wire ropes.
* Two lateral tension pulleys.
* An adjustment device of wire ropes tension for each lateral tension pulley.

No Kit elements

* Canvas.
* Supporting arches.
* Arch sliders.
* Wire ropes.
* Rear pulleys.

Optional elements

* 5/3 manually operated valve to drive the air motor from the platform of vehicle.
* 5/3 solenoid operated valve to drive the air motor from the cab of vehicle.
* 5/3 solenoid operated valve to drive the air motor by remote control (R.F.).
* Lubricator for input air pressure of motor.

Specifications

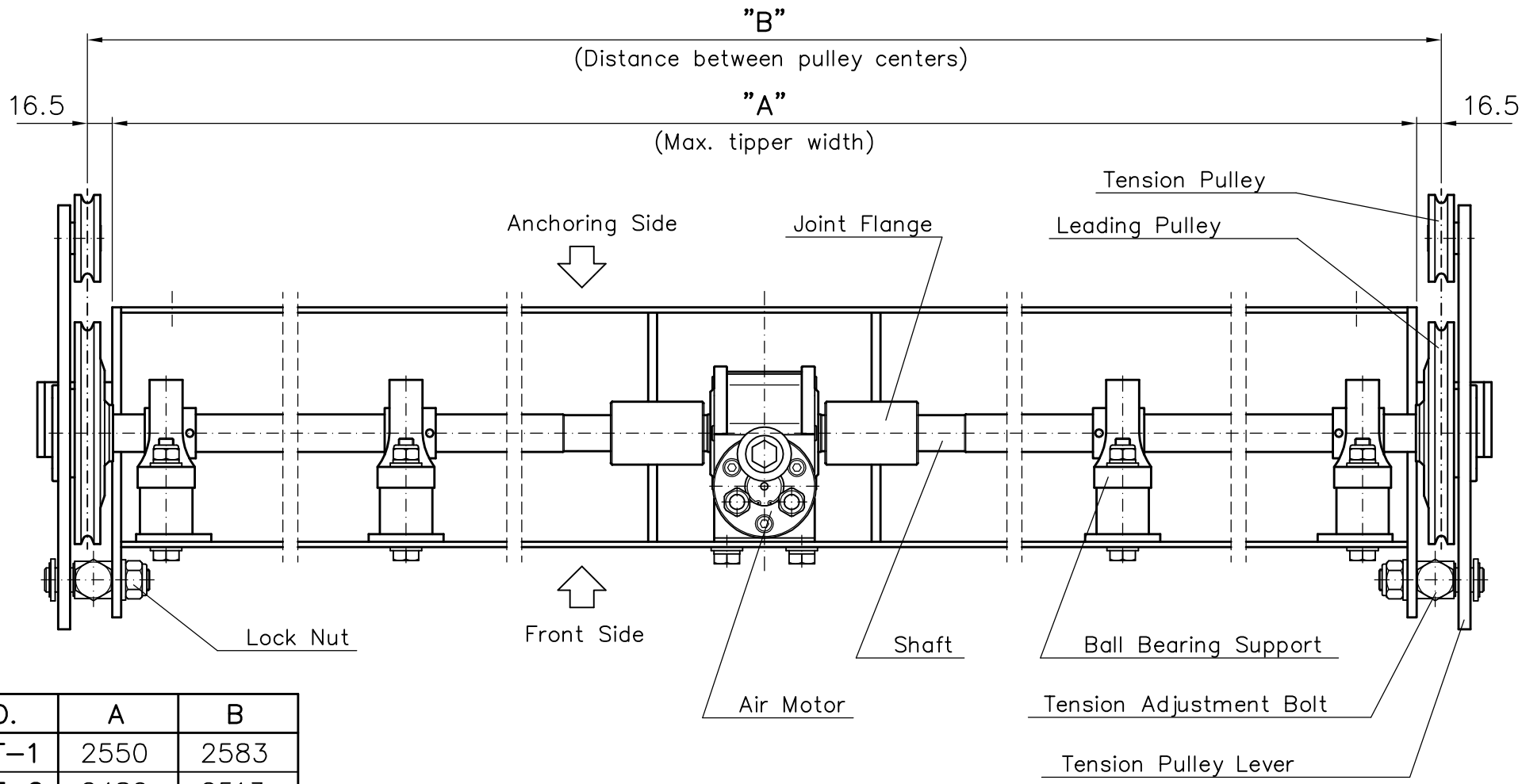
* Dimensions: See attached drawings. Four basical models are offered according to four different values for the maximum tipper width:

  + CAT-1: 2550 mm
  + CAT-2: 2480 mm
  + CAT-3: 2500 mm
  + CAT-4: 2380 mm

* Air motor specifications: See specific point.
* Time to cover or uncover the dumper: Approx. 30 sec.
* Pneumatic schemes to drive the air motor: See specific point.
* Complete kit weight: 29.5 Kg. (CAT-1).

1. ACCEVAL “CAT”: DRIVE BOX KIT FOR TIPPER CANVAS. DIMENSIONS & COUPLING

DRIVE BOX KIT FOR TIPPER CANVAS (CAT): LOWER VIEW

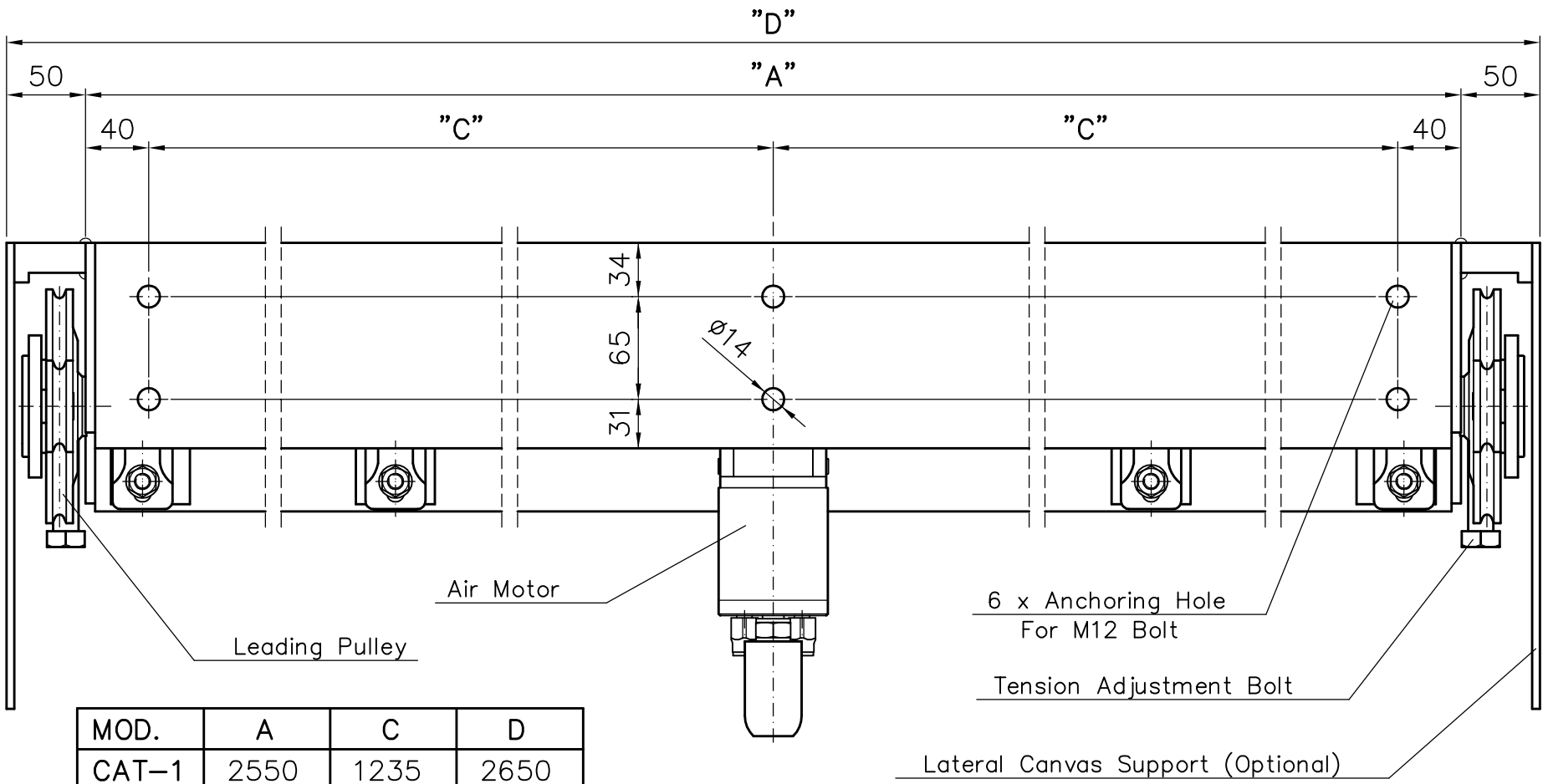


MOD.	A	B
CAT–1	2550	2583
CAT–2	2480	2513
CAT–3	2500	2533
CAT–4	2380	2413

Note: Other dimensions to consult.

Scale 1:4

DRIVE BOX KIT FOR TIPPER CANVAS (CAT): REAR VIEW

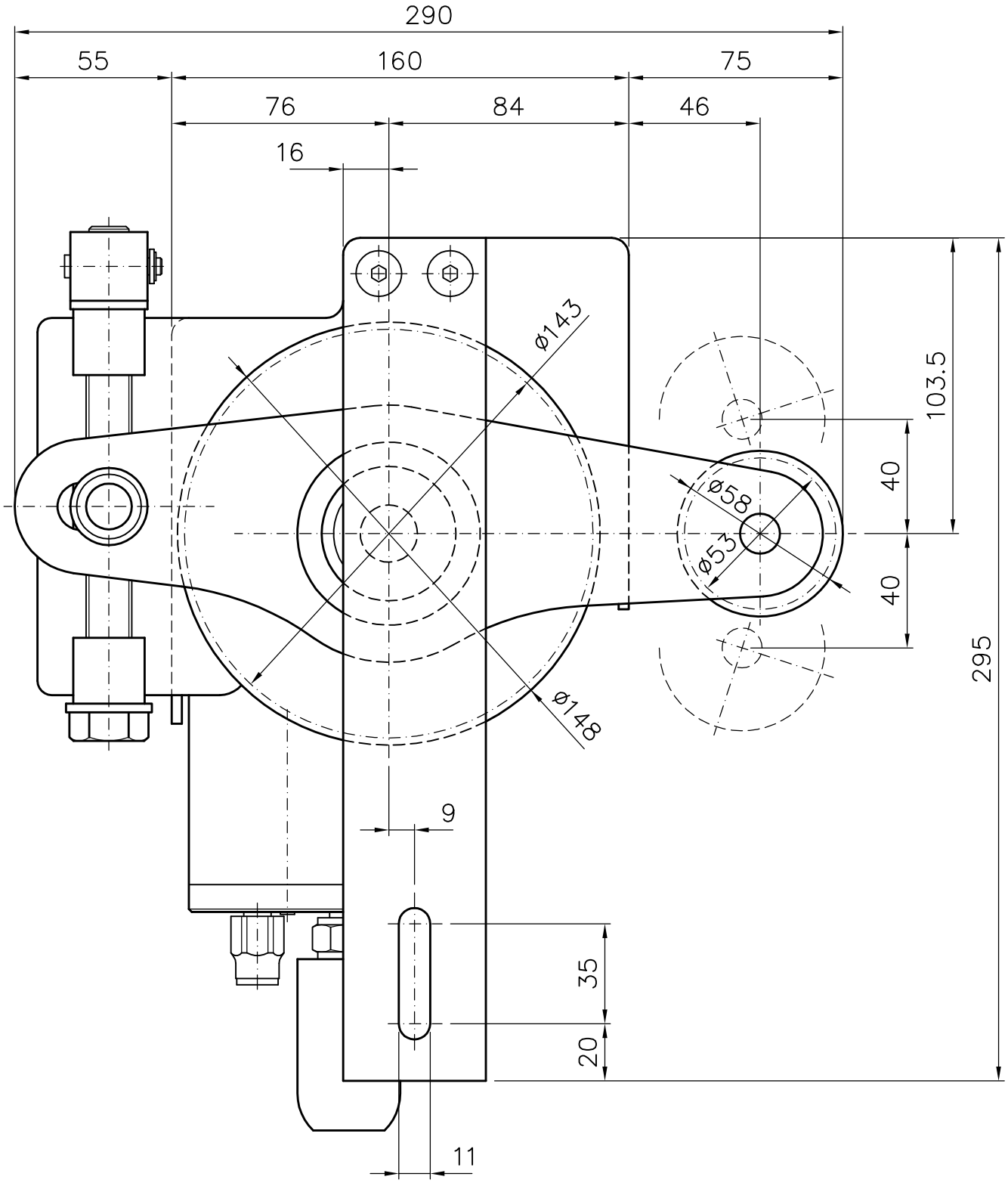


MOD.	A	C	D
CAT–1	2550	1235	2650
CAT–2	2480	1200	2580
CAT–3	2500	1210	2600
CAT–4	2380	1150	2480

Note: Other dimensions to consult.

Scale 1:4

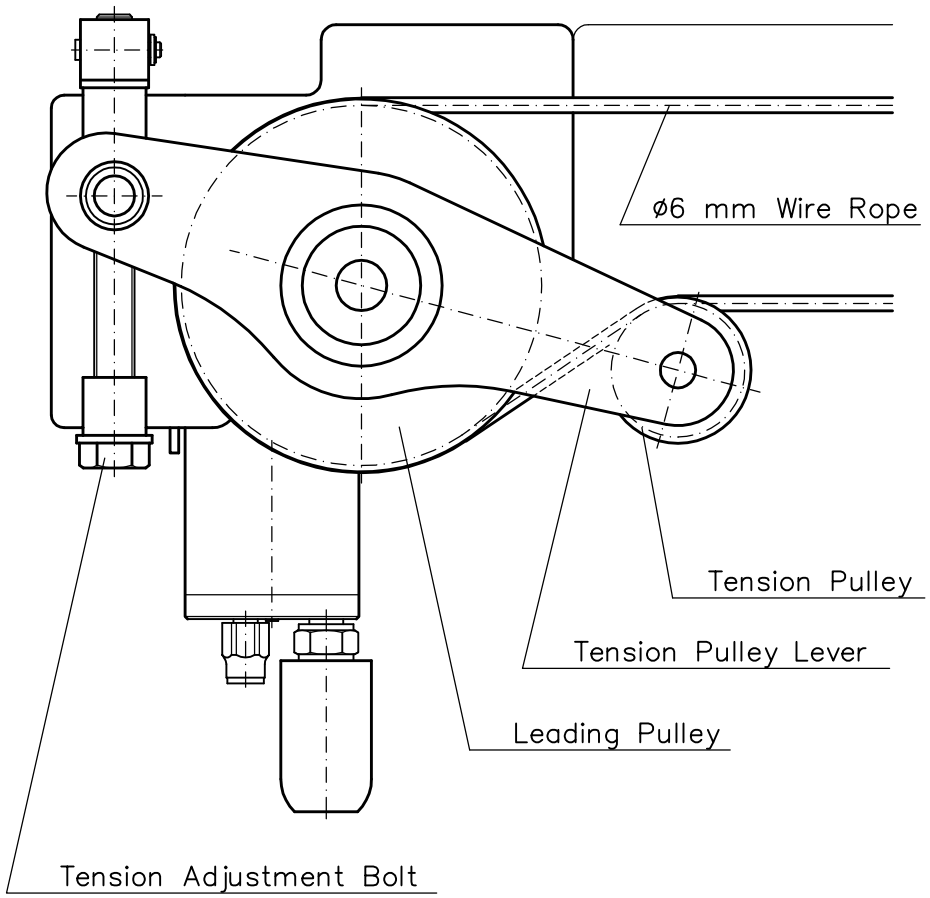
DRIVE BOX KIT FOR TIPPER CANVAS (CAT)
LATERAL VIEW



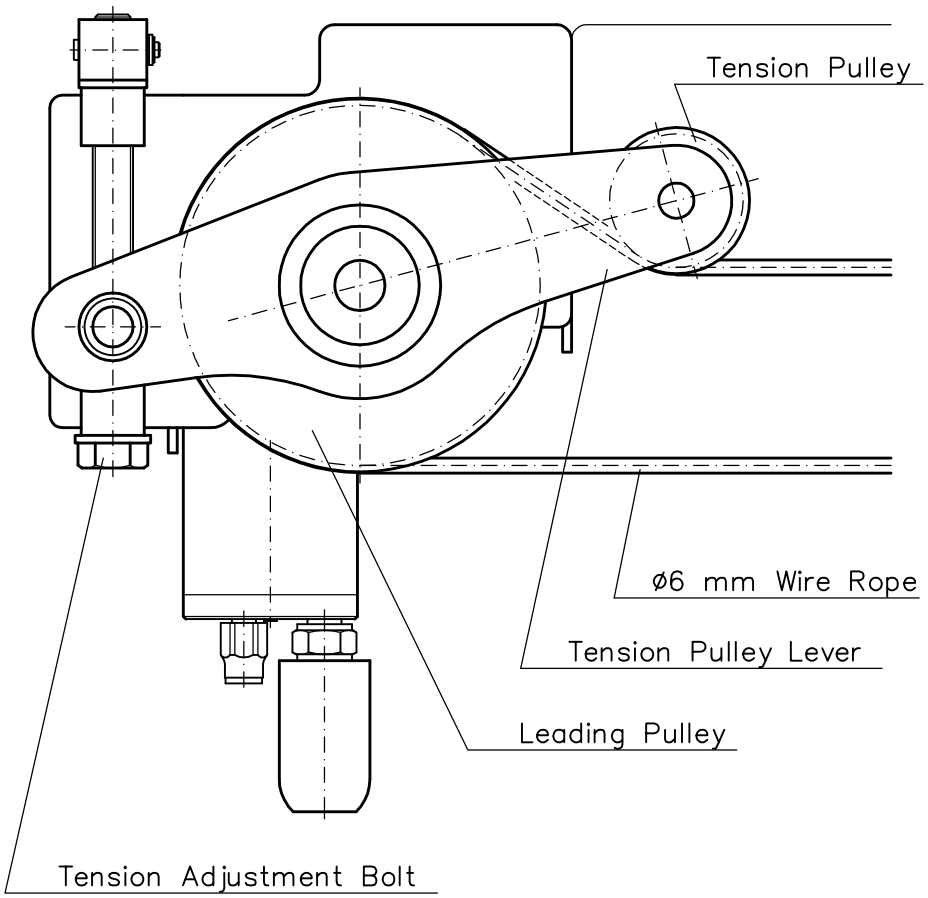
Scale 1:2

DRIVE BOX KIT FOR TIPPER CANVAS (CAT): WIRE ROPES MOUNTING

TO TENSE LOWER SIDE OF WIRE ROPE

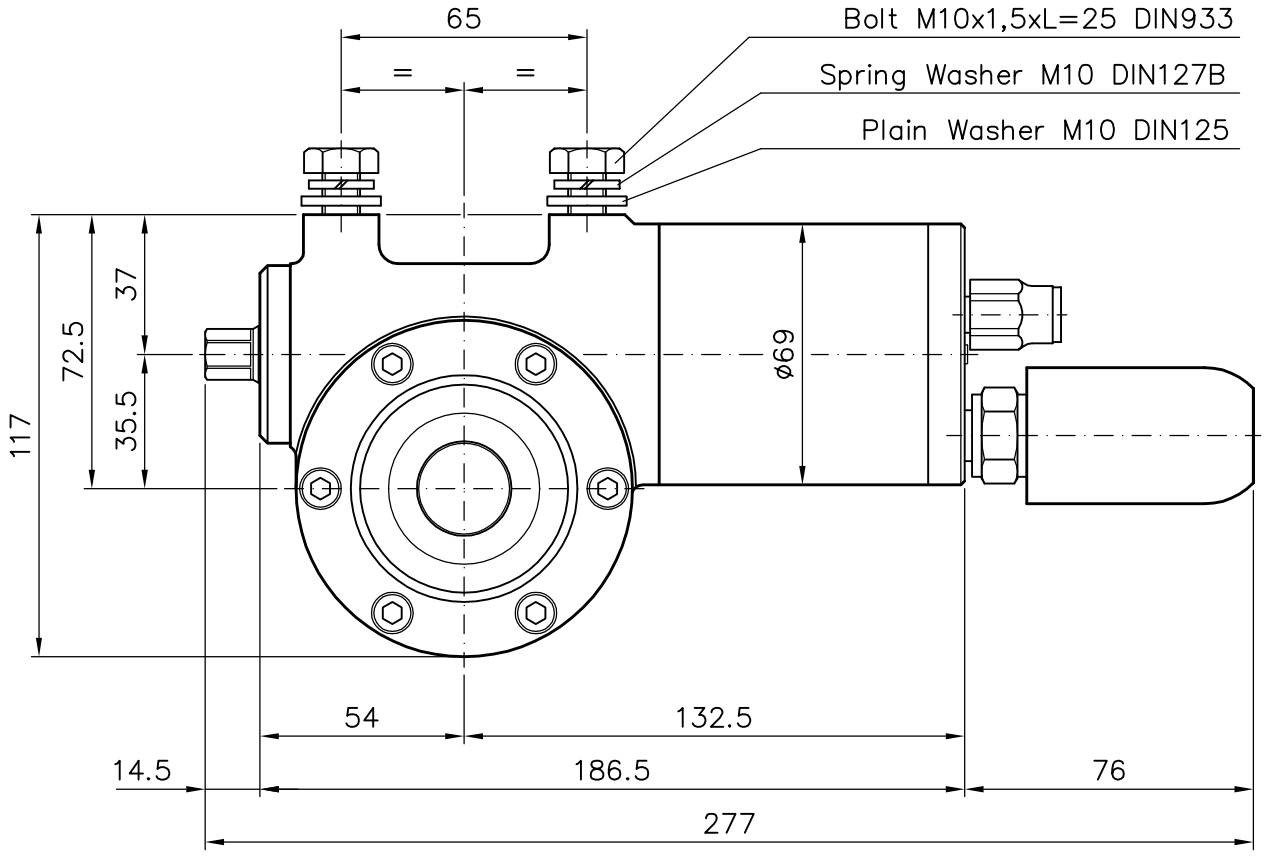


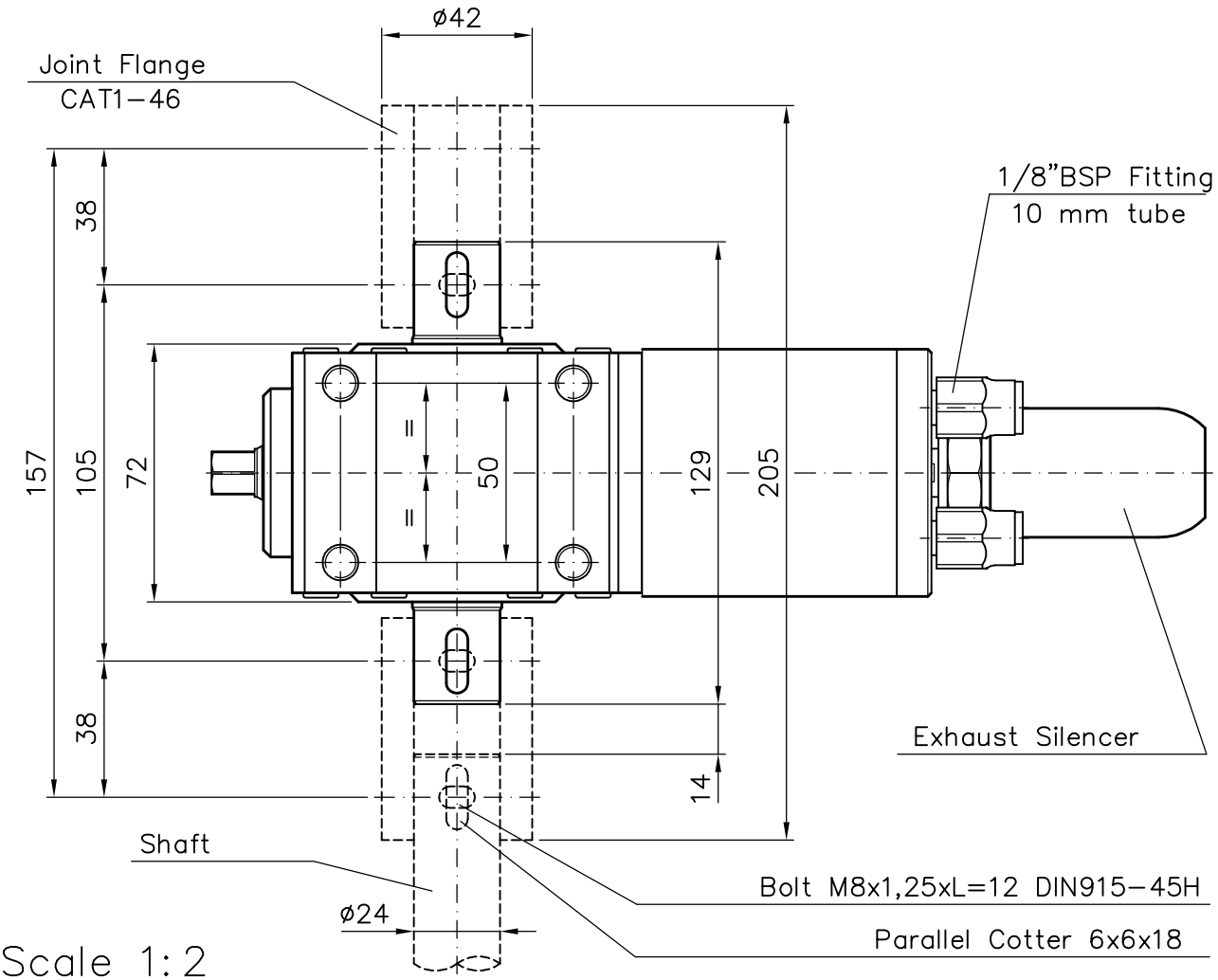
TO TENSE UPPER SIDE OF WIRE ROPE



2. ACCEVAL MRN-2B: AIR MOTOR FOR TIPPER CANVAS. DIMENSIONS & SPECIFICATIONS

ACCEVAL MRN–2B AIR MOTOR
GENERAL DIMENSIONS





Scale 1:2

ACCEVAL MRN-2B SPECIFICATONS
AIR MOTOR TO DRIVE TIPPER CANVAS

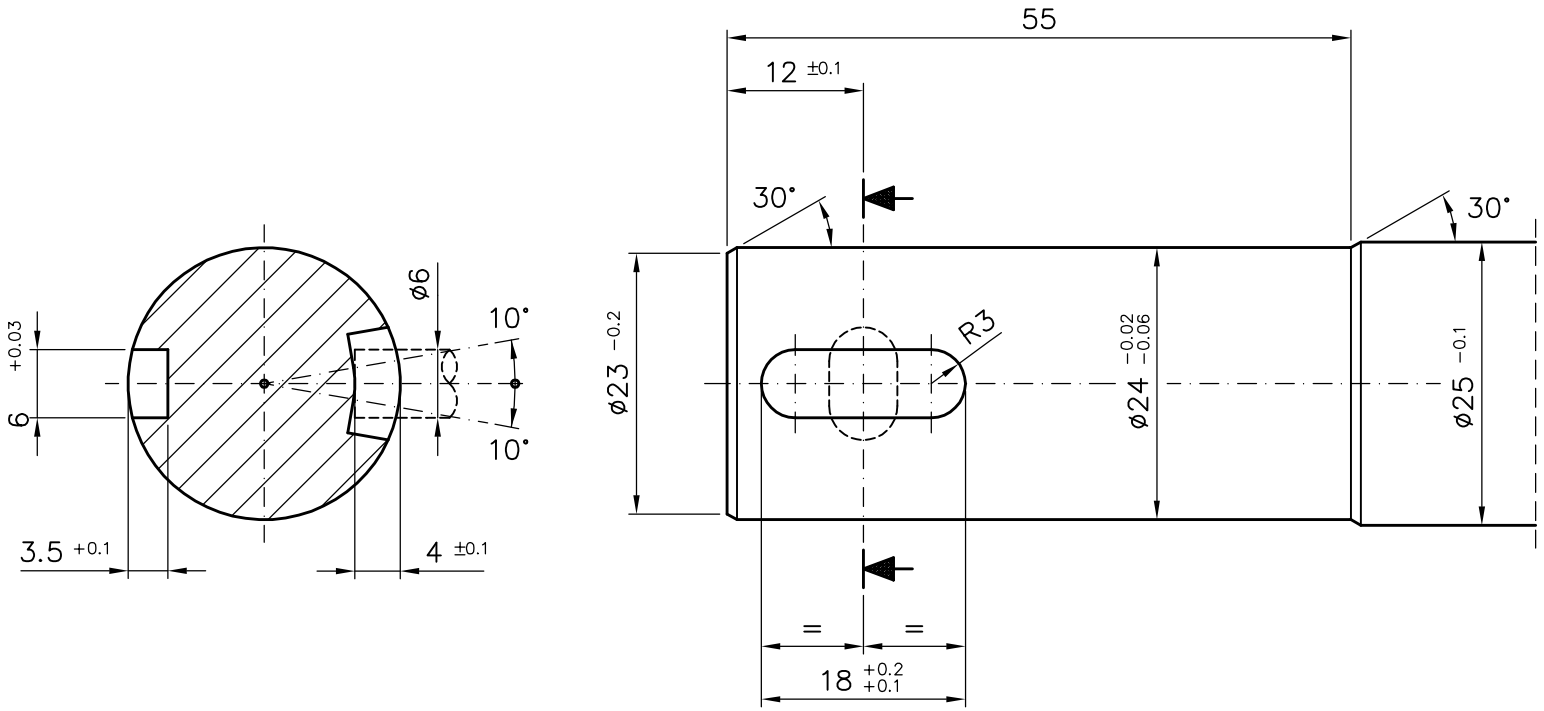
Nominal specifications

* Max. power:	0.3 Kw
* Speed at max. power:	48 Rpm
* Torque at max. power:	60 Nm
* Max. static torque:	120 Nm
* Max. free speed:	96 Rpm
* Pressure for these values:	6.3 Bar
* Air consumptions (Atm.P):	12.5 L/sec

Practical performance

- Practical performance of Acceval MRN-2B air motor is directly depending on supplied air flow.
- Air motor location on the frontal-upper side of tipper, into the drive box kit, implicates a very long air feeding tubes and, therefore, an air flow limitation to feed the air motor.
- To get the correct working of canvas drive system, the pneumatic circuit to drive the air motor has to be in accordance to attached schemes: minimum external diameter of 10 mm for the tubes (8 mm internal) and pneumatic valves + lubricator according to these tubes (1/4''BSP as a reference).
- With this condition, the input air flow of air motor could reach around 55-60% of its max. nominal air flow, and the obtained max. torque could be too around this value.
- This performance was checked as correct in most tipper canvas systems guided by roller skates.
- If non-sufficient performance is observed, it can be powered using a more diameter tubes (F.ex.: 12/9 mm).

ACCEVAL MRN–2B AIR MOTOR SHAFT COUPLING DIMENSIONS

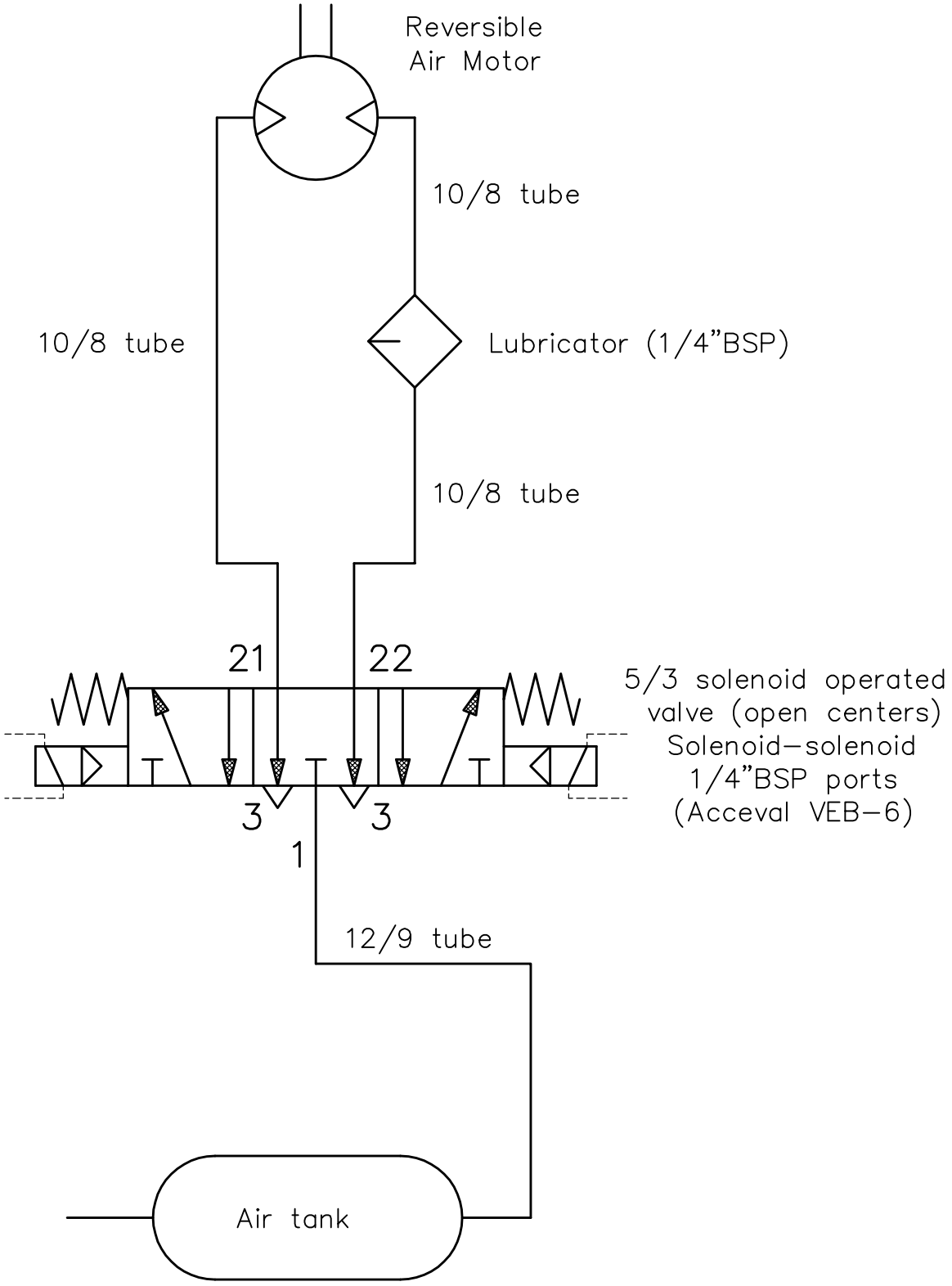


Scale 1:1

3. PNEUMATIC SCHEMES TO DRIVE ACCEVAL MRN-2B AIR MOTOR

AIR MOTOR CONNECTIONS

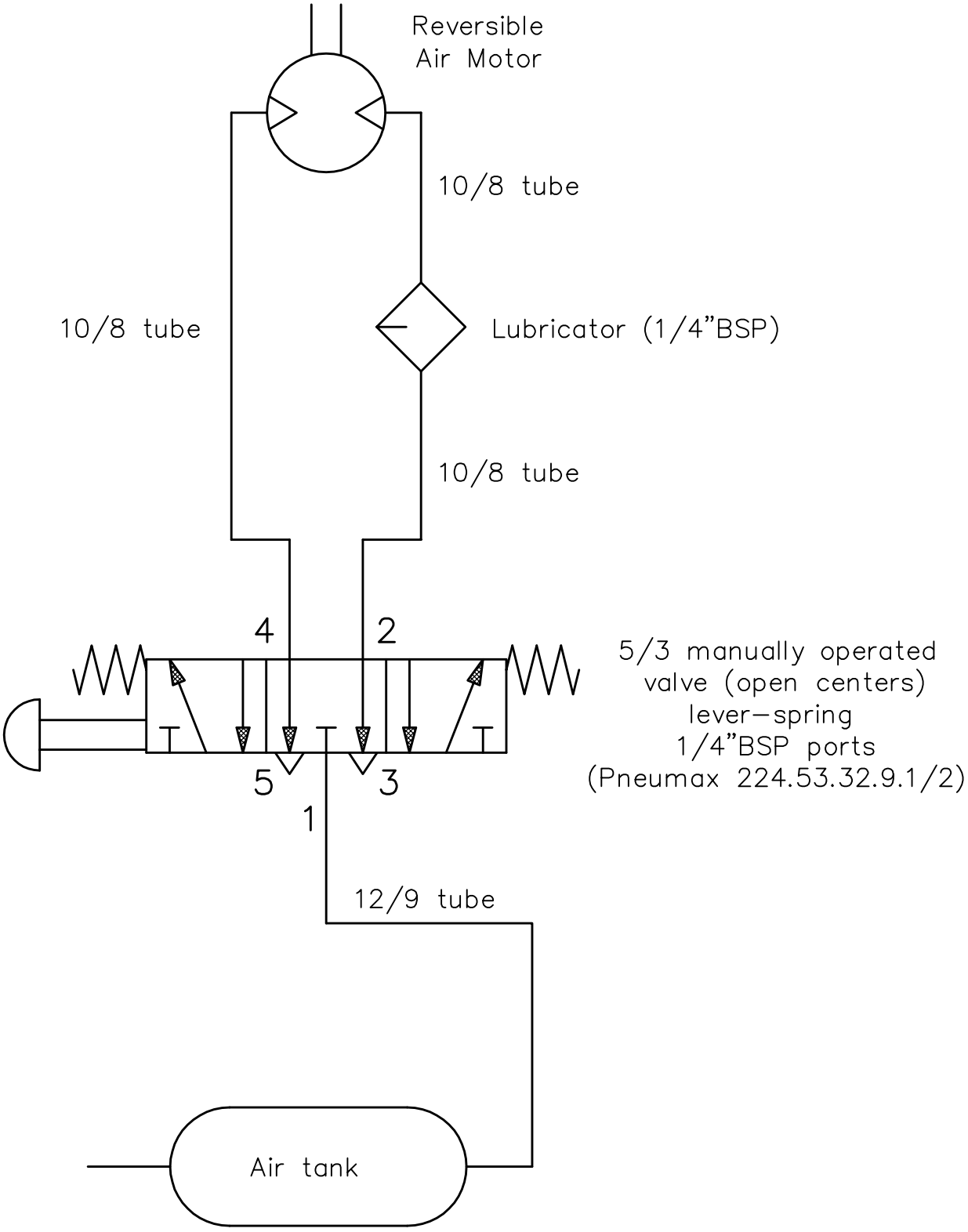
SCHEME N.1: ELECTRICAL COMMAND FROM THE CAB.



Note: Recommended switch like car glasses elevator.

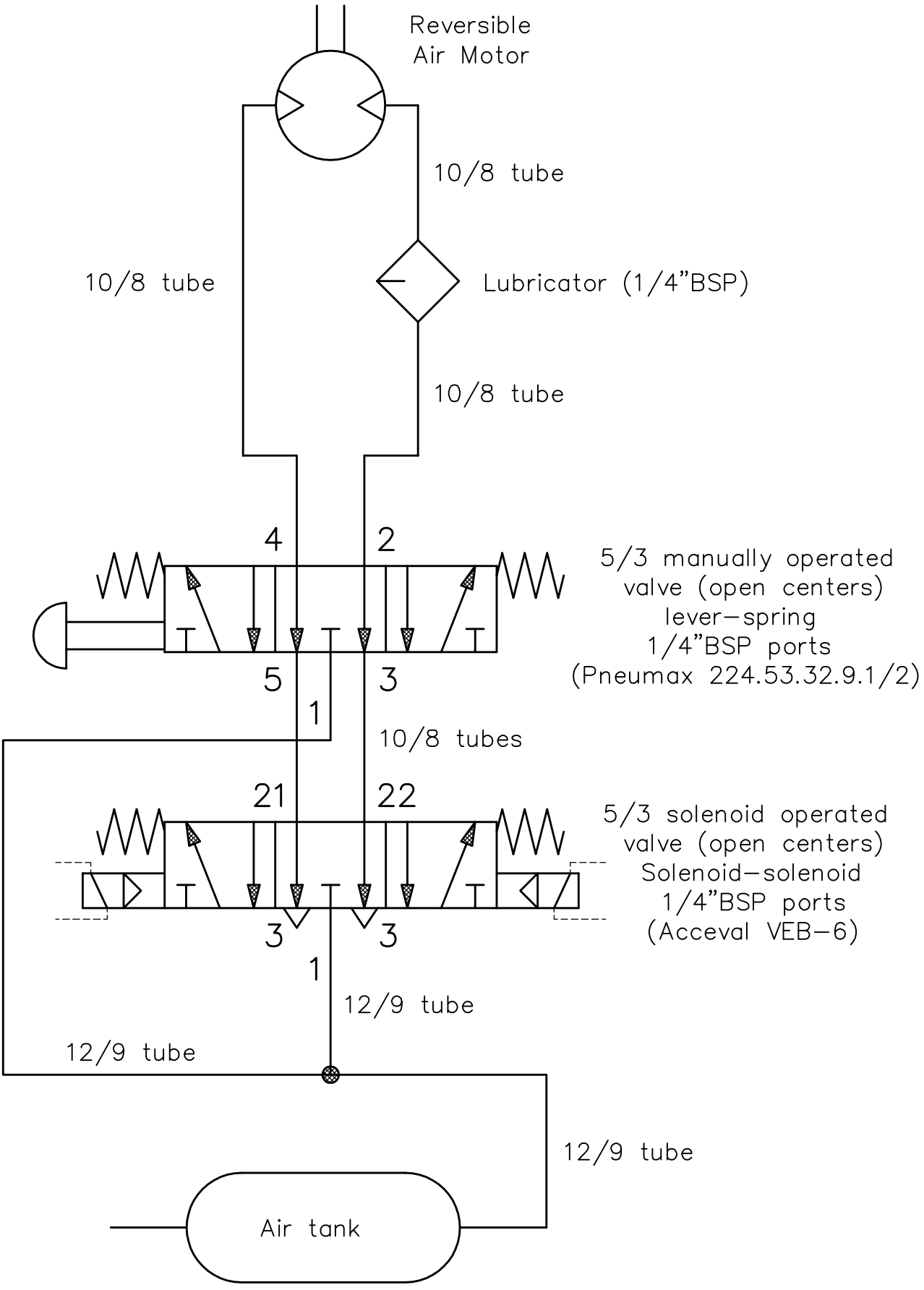
AIR MOTOR CONNECTIONS

SCHEME N.2: MANUAL COMMAND FROM THE PLATFORM.



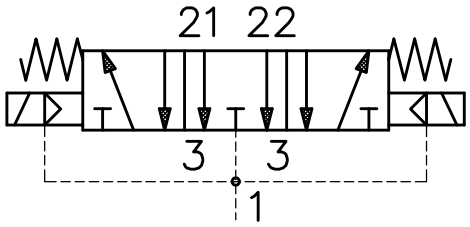
AIR MOTOR CONNECTIONS

SCHEME N.3: DOUBLE COMMAND (ELEC. CAB + MAN. PLATFORM)

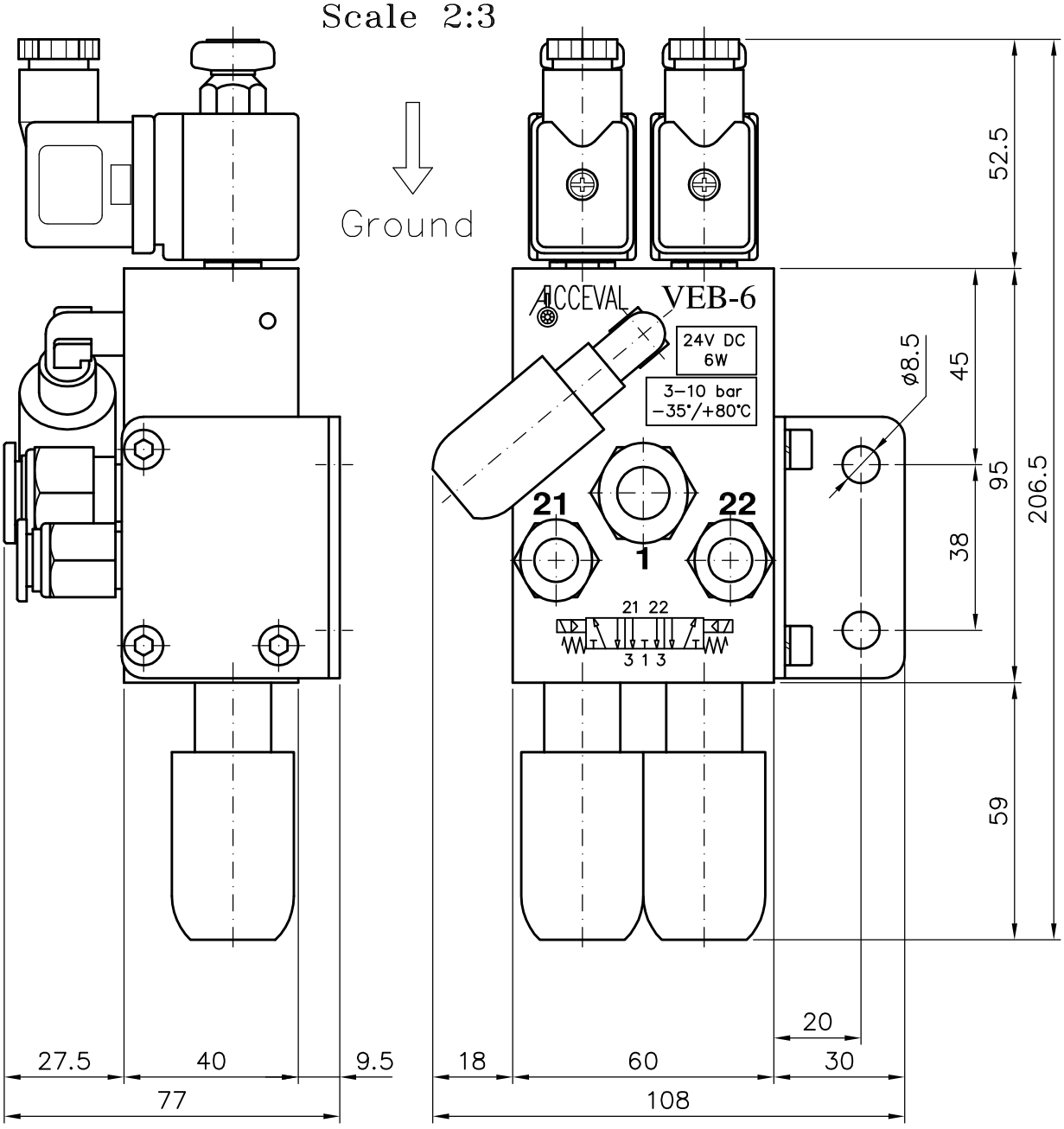


ACCEVAL VEB-6

5/3 SOLENOID OPERATED
VALVE (OPEN CENTERS)
SOLENOID-SOLENOID
1/4"BSP PORTS



Scale 2:3



WORKING SPECIFICATIONS

* Max. working pressure: 10 bar.
* Min. working pressure: 3 bar.
* Safe static pressure: 15 bar.
* Temp. range.: from −35 °C to +80 °C.
* Electrical details: 24V DC 6W.
* Protection class: IP 65 (DIN40050).
* Electrical duty: 100%.
* Electrical connectors: DIN43650.
* Electromagnetic compatibility (EMC) according to 89/336/CEE.
* Low voltage equipment (LVD) according to 73/23/CEE.

PNEUMATICAL CONNECTIONS

Port n.1

* Push-in fitting for 12 mm tube. (Optional: for 10 or 8 mm tubes)

Ports n.21 y n.22

* Push-in fittings for 10 mm tube. (Optional: for 8 mm tube)

Ports n.3 (Exhaust) and breathing

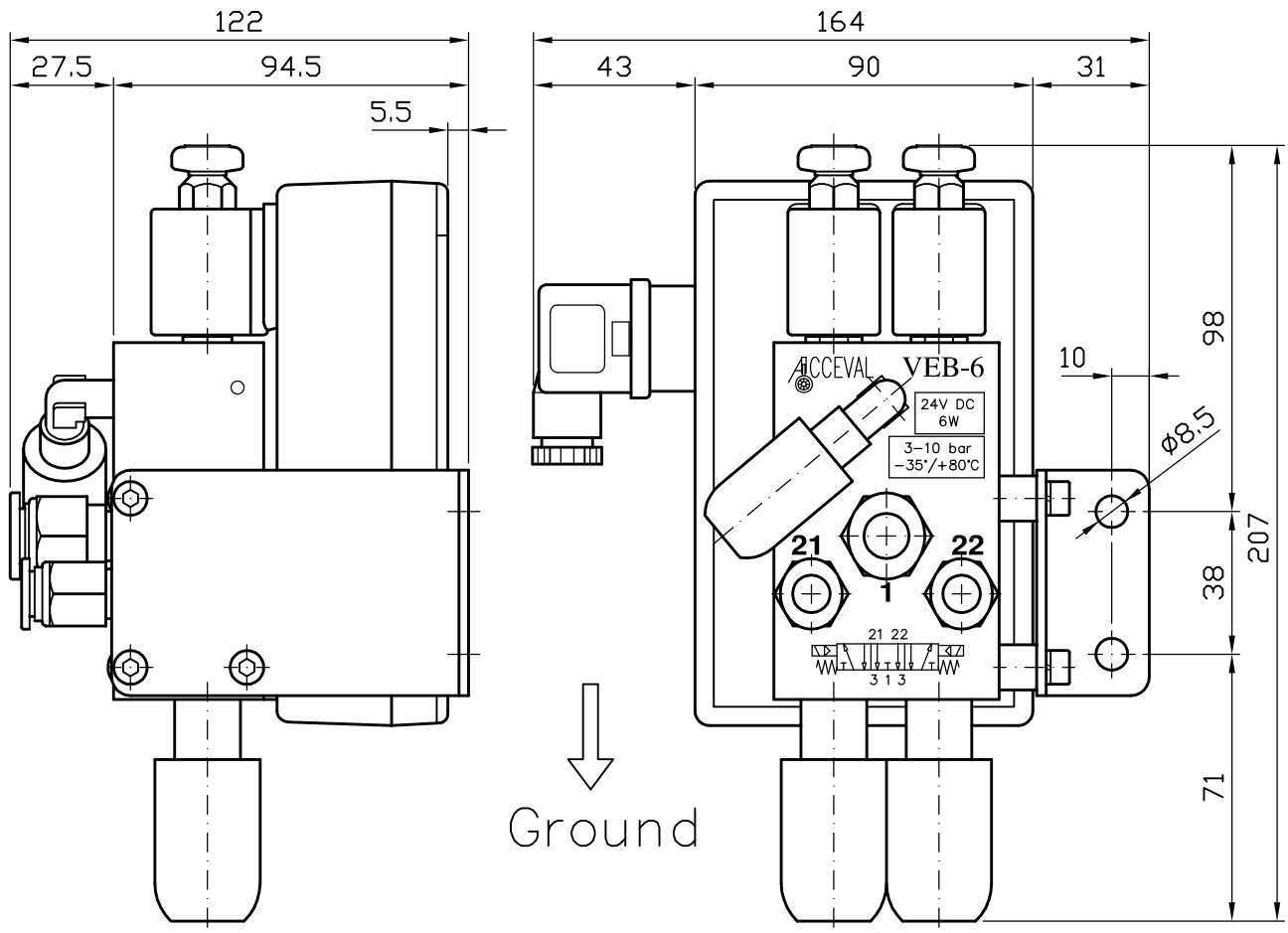
* Filter + filter cover.

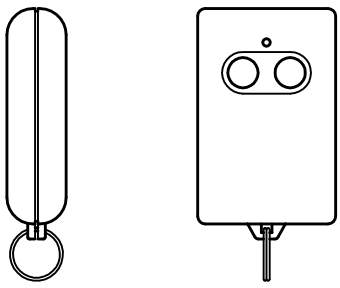
Exhaust port of solenoid valve

* Rubber cup protection.

ACCEVAL VEB-6RF

5/3 SOLENOID VALVE OPERATED BY R.F. REMOTE CONTROL





Scale 1:2

SPECIFICATIONS

* 5/3 Solenoid–Solenoid Operated Valve, Open Centers, 1/4"BSP Ports.
* Solenoid Valve Specifications and Pneumatic Connections: Same than VEB–6.
* R.F. Receiver: Incorporate in solenoid valve by a sealed box (IP–65).
* R.F. Receiver Specifications:
  - Type: Superheterodyne AM/ASK demodulation.
  - Channels: 2 Monostable Channels (Keep pushed the button switch).
  - Feed Voltage: 24 VDC (DIN43650 Industrial Connector, B type).
  - Homologated Working Frequency: 433.92 Mhz.
  - Maximum Working Distance: Approx. 30 meters.
* R.F. Transmitter Specifications:
  - Type: 2 Channels.
  - Electrical Feed: 12V Battery, 23A type.
* Note: Communication between transmitter and receiver has been previously programmed in the factory. If the transmitter breaks or losses, it will be necessary to follow easy instructions to program the new one.