

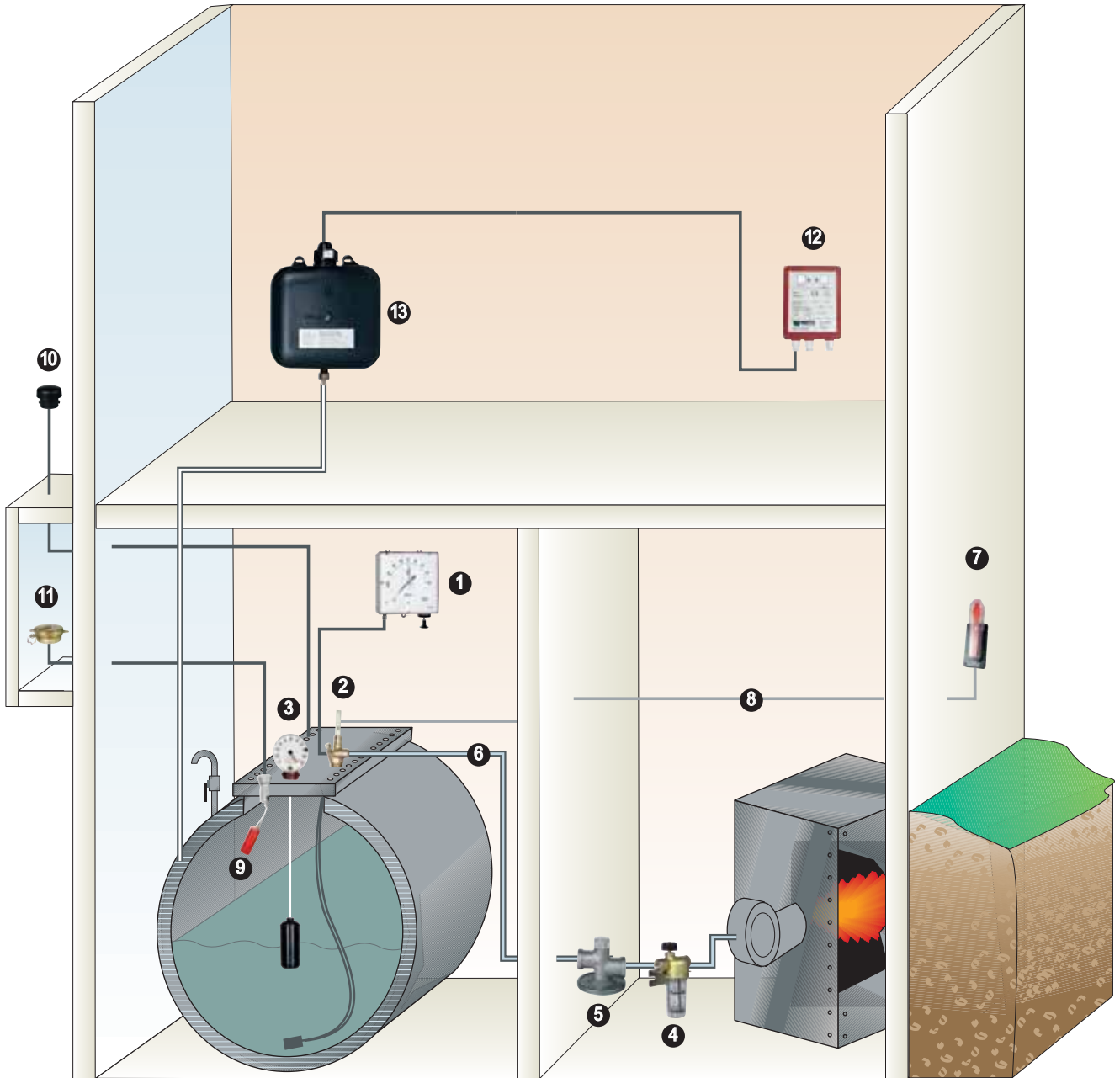
Section - N

# Components for oil-fired heating



 **WATTS**<sup>®</sup>  
INDUSTRIES  
Technology by nature

EXAMPLE OF APPLICATION



- 1 Remote pneumatic tank level indicator.
- 2 Dip unit.
- 3 Mechanical level indicator.
- 4 Fuel oil filters series.
- 5 Diaphragm shut-off valve.
- 6 PVC clad aluminium pipe.
- 7 Fire-fighting lever.

- 8 Steel cable.
- 9 Load relief valve.
- 10 Vent cap.
- 11 Tank filter plug.
- 12 Leak indicator systems for double-wall tanks storing inflammable liquids.
- 13 Tank for test liquid.

**LEVEL INDICATOR, PROBE AND ACCESSORIES**

**TLM**
**TELEVAR.**

Universal remote pneumatic level indicator. For tanks of any shape and height between 900 and 3000 mm (item ...103), or between 3000 and 5000 mm (for item ...105).

Basic dial in percentage volume for cylindrical tanks.

Tank connection suitable for pipe with O.D. 6 mm. Case with 3 external mounting slots.

Type	Part number	Description	Box Qty
TLM3	0101103	Cylindrical tanks height 0.9m to 3m	1
TLM3/R	0101104	Rectangular tanks height 0.9m to 3m	1
TLM5	0101105	Cylindrical tanks height 3m to 5m	1


**SL**

Scale graduated in litres for cylindrical or parallelepiped tanks, which can be placed on top of the basic dial of the TELEVAR remote level indicator.

*Please state tank capacity in your order.*

Type	Part number	Tank	Box Qty
SL	0102100	Cylindrical	1
SL	0102200	Parallelepiped	1


**PE50**

Flexible polyethylene tube for connection of the TELEVAR remote level indicator to oil fuel flexible probes below. Lay the polyethylene tubing carefully to ensure correct level reading (avoid kinks and holes). Tube dia. 4 x 6 mm. Length of roll: 50 metres.

Type	Part number	Box Qty
PE50	0105150	10


**FLEXIBLE PROBE FOR TELEVAR TLM3/5**

Fuel oil probe. Mounted on tank for connection to the TELEVAR remote level indicator.

1" metal fitting with pipe connection O.D. 6 mm.

Perbunan dip element with bottom spacer.

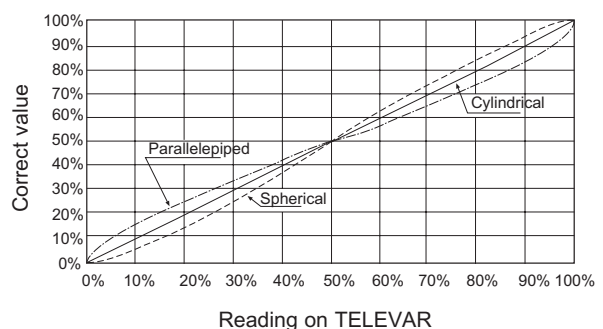
Type	Part number	Size	Box Qty
G220	0104120	2.2m long	1
G320	0104130	3.2m long	1
G520	0104150	5.2m long	1

*The products whose non metal parts are in direct contact with the fuel are not suitable for installation in systems with "VEGETABLE FUEL OIL" or "BIODIESEL" of vegetable origin.*

**Televar**
**Calculation of contents for tanks of various shapes**

It is possible to deduce from the graph to which percentage volume of the parallelepiped and spherical tanks does the value indicated on the standard unit (cylindrical tank) correspond.

Conversion for parallelepiped and spherical tanks



## LEVEL INDICATOR, PROBE AND ACCESSORIES

**MECA-M**

Universal mechanical level indicator, vertical reading, complete with seal for tight tank connection. High impact plastic case and cover. Tank connection: 1-1/2" BSPM. Only 0 – 200cm level gauge is adjustable.

Type	Part number	Size Tank Depth	Box Qty
MECA-M	0103107	0 – 2 ft	5
MECA-M	0103108	0 – 3 ft	5
MECA-M	0103104	0 – 4 ft	5
MECA-M	0103105	0 – 5 ft	5
MECA-M	0103106	0 – 6 ft	5
MECA-M	0103100	0 – 200 cm	5

**RDA**

Double angle fitting for tanks, complete with kit of fittings for connection to pipe dia. 6 x 8, .8 x 10, 10 x 12 mm. Brass CW617N body. 1" male tank connection. 3/8" female suction/return fitting.

Type	Part number	Size	Box Qty
RDA	0120120	1" M x 3/8" F	20

**VRU**

Check valve for fuel oil piping, complete with kit of fittings for connection to pipe dia. 6 x 8, 8 x 10, 10 x 12 mm. Brass CW617N body. Pressure drop at 50 litres/h: 11 mbar. Pressure drop at 100 litres/h: 18 mbar. Max. working pressure: 1 bar. Opening pressure: 0.08 to 0.10 bar.

Type	Part number	Size	Box Qty
VRU	0120140	3/8" F	10

**VFU**

Foot valve for fuel oil tanks, complete with kit of fittings for connection to pipe dia. 6 x 8, 8 x 10, 10 x 12 mm. Brass CW617N body. Plastic bottom spacer.

Type	Part number	Size	Box Qty
VFU	0120160	3/8" F	10


**MB**

MULTIBLOC.

Multi-function dip unit with counterweight for connection between the fuel tank and burner. Combines 5 functions: burner suction and return, check valve, quick shut-off lever and connection for remote level indicator TELEVAR, complete with kit of fittings.

Brass body CW617N. Perbunan dip elements. 1" male tank connection.

3/8" female suction and return connections. TELEVAR level indicator, pipe dia. 4 x 6 mm.

**Interior department approved.**

\* Valve with surface suction (approx. 8 cm from the surface of the liquid) and with connection for remote level indicator Televar, provided with float and ballast.

**TO AVOID CLOGGING OF THE BURNER OWING TO IMPURITIES IN THE FUEL OIL DRAWN FROM THE BOTTOM OF THE TANK.**

\*\* Without Televar connection and with only one float.

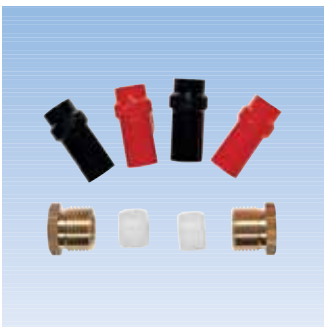
Type	Part number	Size	Dip unit	Box Qty
MB	0108100	1" M x 3/8" F	L = 220 cm	10
MB	0108500	1" M x 3/8" F	L = 320 cm	10
* MB	0108110	1" M x 3/8" F	L = 220 cm	10
** MB	0108310	1" M x 3/8" F	L = 220 cm	10


**MKF200**

MULTIBLOC.

Multi-function dip unit like MB but with overlapping 3/8" male connections and metal bushes for pipe 8 x 10 mm. The body is provided with an extra 3/8" male connection of suction from a second bank-mounted tank. The return pipe from the burner is conveyed to the tank bottom.

Type	Part number	Size	Dip unit	Box Qty
MKF200	0108100	1"	L = 200 cm	10


**S2**

Kit with 2 sets of fittings.

Includes 2 brass nuts with 3/8" male connection and bushes for pipe dia. 6 x 8, 8 x 10, 10 x 12. Can be used for all products with 3/8" female connection.

Type	Part number	Box Qty
S2	0199005	1

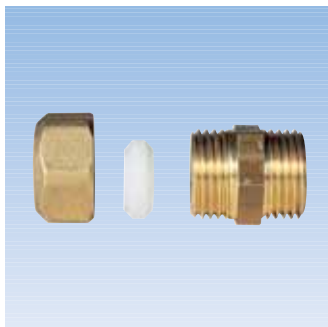

**TECAL**

PVC clad aluminium pipe. Finds application above all as connecting pipe between the fuel tank (fuel oil) and burner. The cladding serves to protect the pipe from chemicals and humidity of the outdoor environment. Seal test at 30 bar (before cladding with the PVC sheath). PVC cladding (0.75 mm thick).

Type	Part number	External Ø	Internal Ø	Roll	Box Qty
TECAL	0701208	8	6	50	1
TECAL	0701210	10	8	50	1
TECAL	0701212	12	10	50	1

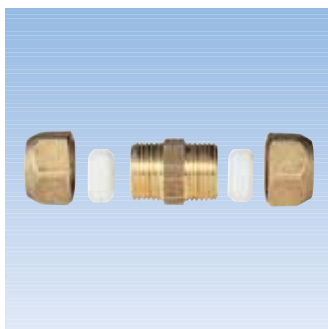
## DIP UNITS

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**DM**

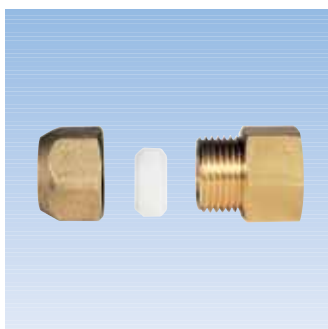
Straight male connector - double taper. Complete with cap and teflon ferrule.  
Brass OT58 body and cap. Double taper teflon seal ferrule.  
Max. pressure: 10 bar. Max. temperature: 110°C.

Type	Part number	Size	Box Qty
DM	0702210	3/8" x 10	10
DM	0702212	3/8" x 12	10
DM	0702310	1/2" x 10	10
DM	0702312	1/2" x 12	10
DM	0702314	1/2" x 14	10

**DI**

Straight bulkhead fitting, double taper-double taper.  
Complete with 2 caps and 2 teflon ferrules. Characteristics like fitting DM.

Type	Part number	Size	Box Qty
DI	0703010	10 x 10	10
DI	0703012	12 x 12	10
DI	0703014	14 x 14	10

**DF**

Straight female connector, double taper.  
Complete with cap and teflon ferrule. Characteristics like fitting DM.

Type	Part number	Size	Box Qty
DF	0704210	3/8" x 10	10
DF	0704212	3/8" x 12	10
DF	0704310	1/2" x 10	10
DF	0704312	1/2" x 12	10
DF	0704314	1/2" x 14	10


**V1/A**

One-way filter for fuel oil, without shut-off valve. Aluminum body and bowl.  
 Stainless steel filter cartridge. Without mounting bracket and fittings.  
 Degree of filtration: 100 micron.

Type	Part number	Size	Box Qty
V1/A	0138311	1/4"	5
V1/A	0138310	3/8"	5
V1/A	0138315	1/2"	5


**V1/AP**

One-way filter for fuel oil, without shut-off valve. Aluminium body.  
 Stainless steel filter cartridge.  
 Without mounting bracket and fittings. Degree of filtration: 100 micron.

Type	Part number	Size	Box Qty
V1/AP	0138301	1/4"	5
V1/AP	0138300	3/8"	5

## SAFETY DEVICES

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**SIC10**

SICUREX.

Diaphragm valve for automatic shut-off of fuel oil in the supply piping of the burners.

Replaces solenoid valve M10M15.

Die-cast aluminium body.

3/8" female connections, with pipe bushes dia. 6 x 8, 8 x 10, 10 x 12 mm.

Opening negative pressure: 50 mbar.

Pressure drop at 50 litres/h: 55 mbar.

Pressure drop at 100 litres/h: 68 mbar.

Type	Part number	Box Qty
SIC10	0150110	10

**M10M15**

Normally closed (NC) solenoid valve for automatic shut-off of fuel oil in the supply piping of the burners. Used for fuel oil, hydraulic oil with pressures up to 2 bar and max. viscosity 2 °E.

Power supply 230Vac/dc 50Hz.

Room temperature. -5 to 60°C.

Orifice diameter: 5.6 mm.

Operating pressure: 4 bar.

Protection class: IP65

**According to EEC 89/336 - EEC 73/23.****CE approval according to Directive 97/23/CE**The following power supplies on request : 12 Vac/dc 24 Vac/dc 110 Vac/dc.

Type	Part number	Size	Power supply	Box Qty
M10M15	0150210	3/8" FF	230V	1
M10M15	0150215	1/2" FF	230V	1

**SVD**

Solenoid valve normally closed, for diesel oil and heavy oil.

Aluminium body.

Brass, aluminium and magnetic stainless steel internal components, stainless steel springs; viton seals and o-rings.

Max operating pressure : 8 bar.

Environment temperature range : -10°C/ +60°C.

Max fuel temperature : 80°C.

On request supply voltage: 24Vac/dc, 12Vdc.

Electrical insulation : IP 65. Coil: class F.

Absorbed power : 45W.

Connections : female threaded UNI-ISO 7/1.

**According to standard 97/23/CEE (only for 6 bar model).****Identification number CE 0497**

Type	Part number	Size	Power supply	Box Qty
SVD	0050140001	3/4"	230 Vca	1
SVD	0050141001	1"	230 Vca	1
SVD	0050142001	1.1/4"	230 Vca	1
SVD	0050143001	1.1/2"	230 Vca	1
SVD	0050144001	2"	230 Vca	1




**M15**

Coils for solenoid valve M10M15.  
 N.B. 24V coil, specify whether dc or ac.  
 12V coil, dc only.

Type	Part number	Power supply	Box Qty
M15	0199035	230V	1
M15	0199048	24V	1
M15	0199049	12V	1


**SW90**

Load limiting valve for fuel oil tank. Die-cast aluminium body. Oil-proof plastic float.  
 Bottom connection 2" male - top 2" female.

Type	Part number	Size	Box Qty
SW90	0152100	2" MF	10

**Spare coil for diesel oil, heavy oil solenoid valves**

Type of Solenoid Valve	Size body	230Vac	24Vac	24Vdc	12Vdc
SVD	3/4" - 2"	216	218	218	217

**Spare connectors for diesel oil, heavy oil solenoid valves**

Type of Solenoid Valve	Size body	230Vac	24Vac	24Vdc	12Vdc
SVD	3/4" - 2"	2104	226	226	2105

## SAFETY DEVICES

**LA**

Fire-fighting lever for cable-operation of shut-off valves (MULTIBLOC, RIS). Base plate and red lever of special plastic. Box containing 4 screws and wall mounting plugs. The lever must be located outside the boiler room.

Type	Part number	Box Qty
LA	0153100	10

**LACP**

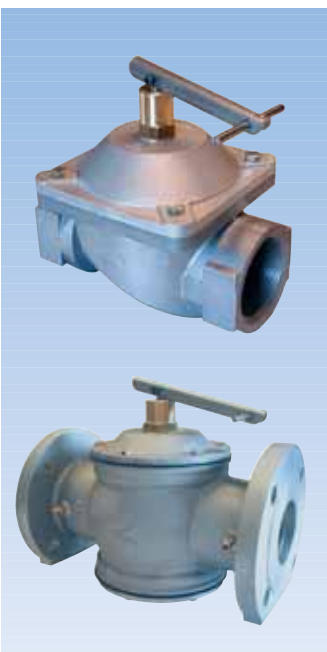
Fire-fighting lever for cable-operation of shut-off valves (MULTIBLOC, RIS). Complete with transparent protective cover. Base plate and red lever of special plastic. Box containing 4 screws and wall mounting plugs.

Type	Part number	Box Qty
LACP	0153120	10

**LACPT**

Like LACP but also includes 10 m of PVC cladded flexible steel cable, 3 intermediate slots and 3 cable clamps for connection of ends.

Type	Part number	Box Qty
LACPT	0153130	10

**JH**

Jerk handle on/off valve remotely controlled by cable and fire-fighting lever series LA-LACP-LACPT. Aluminium valve body. Stainless steel operating lever. Max. operating pressure: 6 bar. Ambient temperature range : -10° to + 60 °C. Max. fuel temperature : 80 °C. Fuels: natural gas, town gas, lpg, diesel oil and fuel oil. Connections: threaded UNI-ISO 7/1, flanged ISO 7005/2.

**According to directive PED 97/23/CE - CE 0497 (ND 125-150).**

Type	Part number	Size body	Box Qty
JH	JH15	1/2"	1
JH	JH20	3/4"	1
JH	JH25	1"	1
JH	JH32	1.1/4"	1
JH	JH40	1.1/2"	1
JH	JH50	2"	1
JH	JH65	65	1
JH	JH80	80	1
JH	JH100	100	1
JH	JH125	125	1
JH	JH150	150	1


**RIS**

Fuel oil shut-off with pull-out lever remotely controlled by cable and fire-fighting lever LAC, complete with kit of fittings for pipe dia. 6 x 8, 8 x 10, 10 x 12 mm. Brass CW617N body. Pressure drop at 50 litres/h: 11 mbar. Pressure drop at 100 litres/h: 18 mbar.

Type	Part number	Size body	Box Qty
RIS	0120100	3/8" F	10


**CL50**

PVC clad, braided flexible steel cable, for operating the shut-off elements through the fire-fighting lever. Box of 50 m rolls, with 10 cable clamps.

Type	Part number	Box Qt
CL50	0154050	1 (50 meters)


**TCS**

Tank drain plug with slots for padlock and chain. Tropicalized mazak body and cover. 2" female tank connection. 2.1/2" male connection for fill hose.

Type	Part number	Size body	Box Qty
TCS	0155100	1/2" F x 2.1/2" M	10


**CTS**

Guard cap for tank vent pipe, threadless, with fixed spacers for adaptation to pressure mounted pipes, with lock screws. High impact plastic body, metal mesh.

Type	Part number	Size body	Box Qty
CTS	0160125	1" - 1.1/4"	10
CTS	0160140	1.1/2" - 2"	10

## LEAK INDICATOR SYSTEMS

**LAG**

Leak indicator systems for double chamber tanks for storage of inflammable liquids. Complete with electronic indicator unit LAGN, lever indicator BAE10.

Power consumption: 10VA.

Extra alarm relay: 5A - 250 V.

*For mounting the installation system use the complete set of accessories series LAGMS.*

**According to DIN6608, EEC 89/336, EEC 73/23.**

**Approval ATEX 94/9/EEC.**

Type	Part number	Power supply	Box Qty
LAG	0190100	230V	1

**Operation of the leak detector**

The LAG leak detector monitors the intermediate chamber (control chamber) of the storage tank, filled with the detector liquid, and signals any leakage on the outer or inner wall. The device consists of an indicator instrument (electronic control unit) able to activate an optical and acoustic alarm, plus a reservoir containing the detector liquid with transducer (probe) connected to the control chamber of the storage tank via special piping. To fill the reservoir with liquid up to the max. level mark (see transparent sight window), remove the transducer: the liquid to be used must always be the same as the liquid in the control chamber of the main tank. A BAM certificate should be issued for such liquid.

Liquids with BAM certification :

Glyco Shell 1	(Deutsche Shell AG - Amburgo -D)
Antifrogen N	(Hoechst AG - Gendorf - D)
Glymin NF	(BASF Ludwigshafen - D)
Ilexan	(Hüls AG - Marl -D)

and other similar liquids with min. electric conductivity of 0.05  $\mu$ S/cm.

**LAGMS**

Full set of accessories for mounting leak indicator system LAG and LAGN.

Bottom fitting VM with seal. 1" tank connecting sleeves. 3/8" vent valve.

PVC connecting tube with fastening dia. 14 x 19. 1" F x 3/8" F elbow reducer for valve.

*Various fastening accessories.*

Type	Part number	Box Qty
LAGMS	0196100	1


**LAGN**

Electronic indicator unit for tank leak indicator systems.

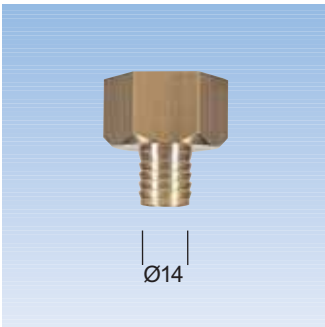
According to DIN6608, EEC 89/336, EEC 73/23.

Type	Part number	Power supply	Box Qty
LAGN	0190200	230V	1


**BAE10**

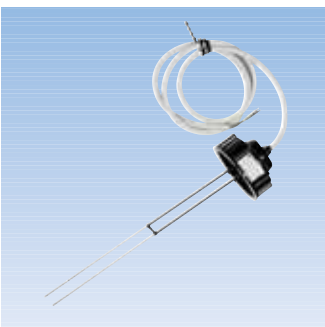
Auxiliary tank for test liquid, complete with probe, level indicator and bottom fitting.

Type	Part number	Box Qty
BAE10	0191011	1


**VM**

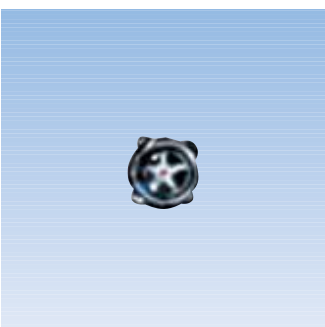
Brass bottom fitting for test liquid tank.

Type	Part number	Size body	Box Qty
VM	0194120	3/8" F	1


**SK**

Complete probe for test liquid tank.

Type	Part number	Tank	Box Qty
SK	0192001	Standard	1
SK	0192002	Auxiliary	1

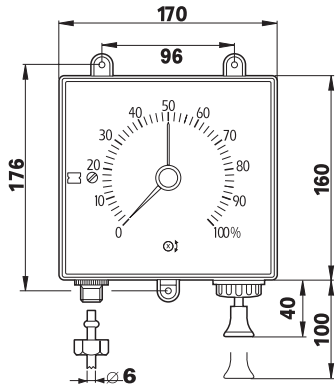

**SGL**

Level indicator for test liquid tank. Complete with seal.

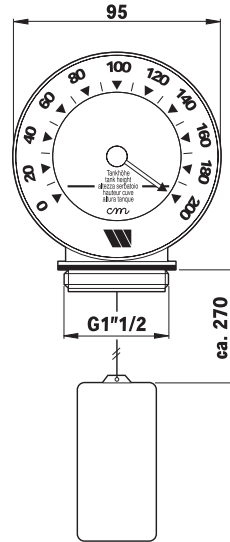
Type	Part number	Size body	Box Qty
SGL	0193010	1/4" M	1

CHAPTER N

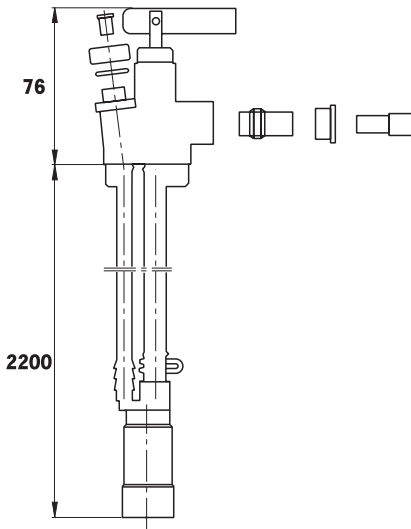
TLM



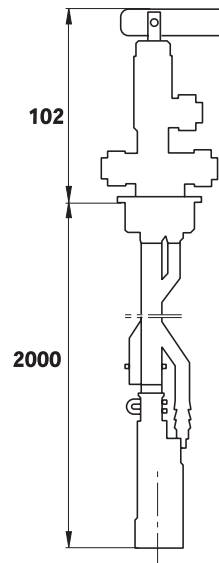
MECAV - MECAH



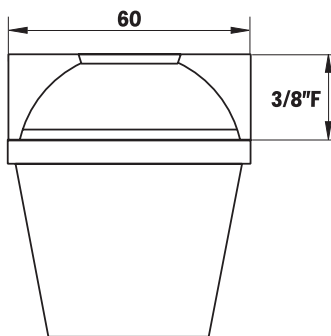
MB



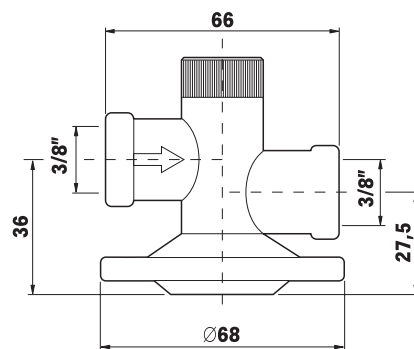
MKF200



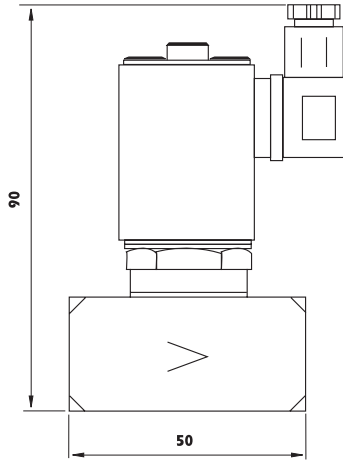
V1AP



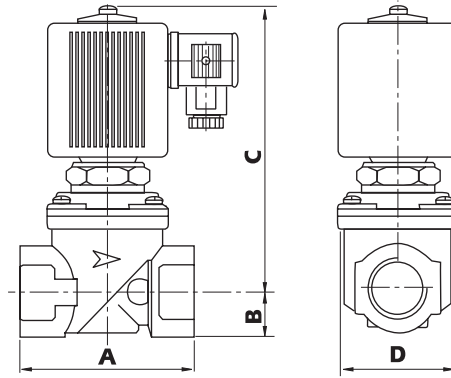
SIC10



**M10 M15**

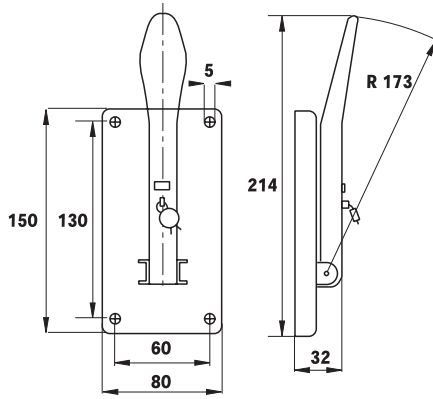


**SVD**

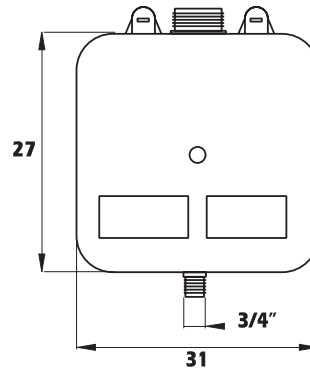


Type	ND	A	B	C	D
20	3/4"	96	25	160	70
25	1"	96	25	160	70
32	1.1/4"	154	31	188	105
40	1.1/2"	154	31	188	105
50	2"	173	39	191	127

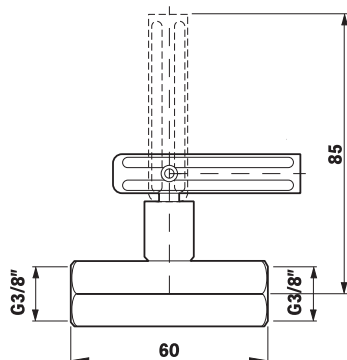
**LA/LACP/LACPT**



**BAE10**



**RIS**





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