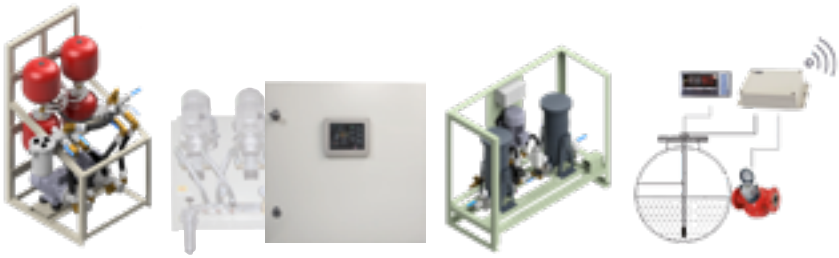
INPRO GROUP PRODUCTS GUIDE

- **Fuel handling equipment for**
  - Automatic fuel supply to oil burners
  - Backup diesel generators day tanks

- **Fuel polishing systems**



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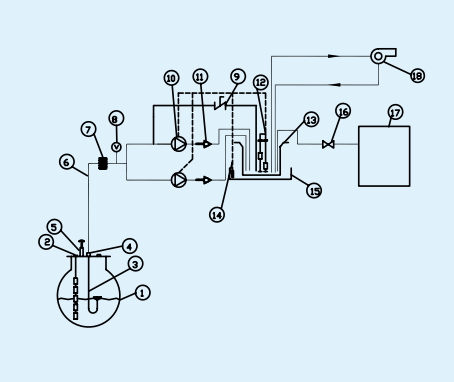
INFORMATION TO ASSIST TO CHOOSE THE CORRECT INPRO UNIT

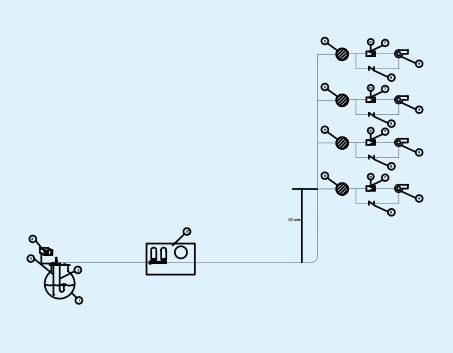
SUGGESTED MODEL	APPLICATIONS & SPECIFIC FEATURES
GP	• Multiple burner, appliances or service tanks supplied with one GP pressure unit. • Appliances installed at different heights. • Modulating burners when using the Inpro Oil Burner Inlet Assembly (see P 31). • Oil Supply installation using 'dead leg' pipework. GP unit does not need external controls. • GP units operate on an internal pressure switch only pumping fuel when required. • Pressure regulators may be required at oil inlet to burners/appliances. • Limited suction lift may require GP unit to be sited near the oil tank.
GPS	• Oil supply to appliance by gravity feed, GPS unit must be higher than appliance(s). • Various GPS models available with different sizes of reservoir. • Standard unit has 2 outlets for 2 appliances, more outlet versions available to special order. • Suction lift 9m vertical or 200m horizontal. See performance curves (P 4 & 6). • Oil supply installations using 'dead leg' pipework. GPS unit does not need external controls. • Anti siphon valve or 'normally closed' solenoid valve required at the main oil tank when oil level in tank is above GPS level. • Special GPS models available with greater reservoir, for acting as power generator reservoir • Special GPS models available with larger flow, for high output or modulating burners
RL	• Pump for 'Ring Main' oil transfer systems. • Single or multiple appliances at same height or varying height. • Suitable for high output or modulating burners. • For use on oil supply installations where a GP 'dead leg' system is not practical. • A back pressure relief valve (overflow valve) is required to maintain adequate pressure in the 'Ring Main'. • Special RL units available for aggressive or heated non standard fuels.
FP	• Main tank to daily service tank oil transfer. • Oil supply to one or multiple generators. • Installations with large height differences between main storage and daily service tanks. • Any oil supply for 'tank to tank' automated by a signal from the daily tank level switch to the FP unit. • Special FP units available for aggressive or heated non standard fuels.

GPS OIL SUPPLY TO 1 BURNER AND 1 GENSET



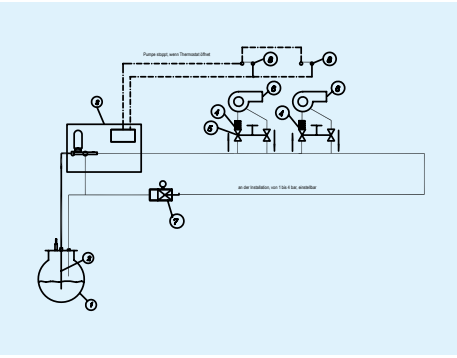
1) Main storage tank
2) Remote level gauge
3) Floating suction
4) Manhole
5) Ventilation tee
6) Intake pipe
7) Filter
8) Vacuum gauge
9) by-pass valve
10) Electric gear pump
11) Anti-return valve
12) Safety/service switches (level)
13) Tank
14) Drip tray
15) Leak detection
16) Quick shut-off valve
17) Generator
18) Burner/boiler

GP OIL SUPPLYTO 4 BURNERS



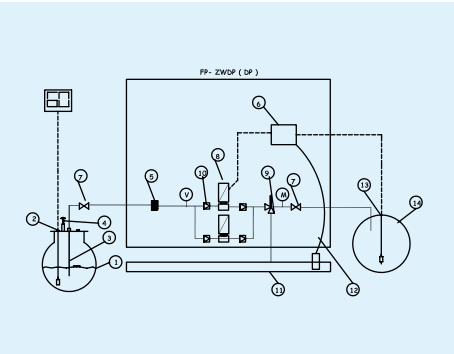
1.) Main storage tank
2). Suction
3). Remate level gauge
4). Control box EDM-40 remate level gauge
5). Pressure unit "lnpro" GP-300 GET
6). Filter
7.) Pressure reducer
8.) Non-return valve
9.) Burners

RL N OIL SUPPLY OR 2 MODULATING BURNERS



1) Main storage tank
2) Suction pipe
3) Pressure units "lnpro RL"
4) Filter
5) Quick shutoff valve
6) Burners
7) Overflow valve
8) Burner thermal relay

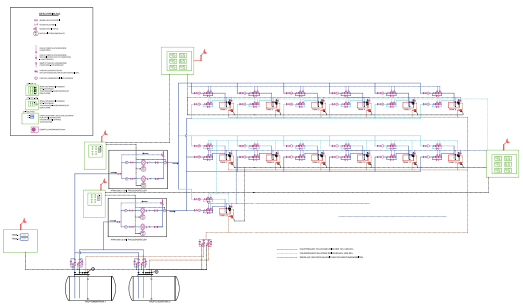
FP ZW OIL SUPPLY TO A DAILY TANK



1) Main storage tank
2) Remole level gauge
3) Floating suction
4) Manhole
5) Filler
6) Control panel
7) Quick shutoff valve
8) Pumps type FP
9) Conducted escape safety valve
10) Anti-return vale
11) Drip tray
12) Flexible probe
13) SMMR Level switch
14) Daily Tank

CAG / CAG+

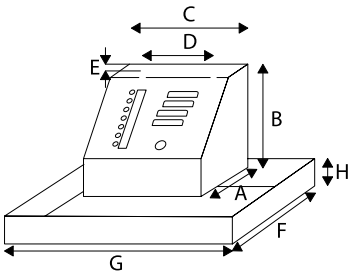
- The SIMKA twin pumps in conjunction with the CAG+ Control Cabinet are ideal for installations where oil is required by a/ several generator/s (one or several: mainly used for several, to handle many signals).
- The CAG+ control unit will control the pumps, solenoid valves, alarms & tank oil levels via its management software and display information on screen.
- The controller has a touch screen with Mod Bus or Ethernet TCP IP communication protocol.
- Preventive maintenance tests can be performed along with manual filling if required. (to be done without generator oil demand, one return pump would be required)
- The pumping system will be designed in the factory to meet your specific requirements.
- Every SIMKA pump set has it's pumps manoeuvre control and motors thermal overload relay ath the single CAG + control panel which monitors in an touchscreen all the pumping system.
- Please contact our sales office for a tailored specification and quotation.



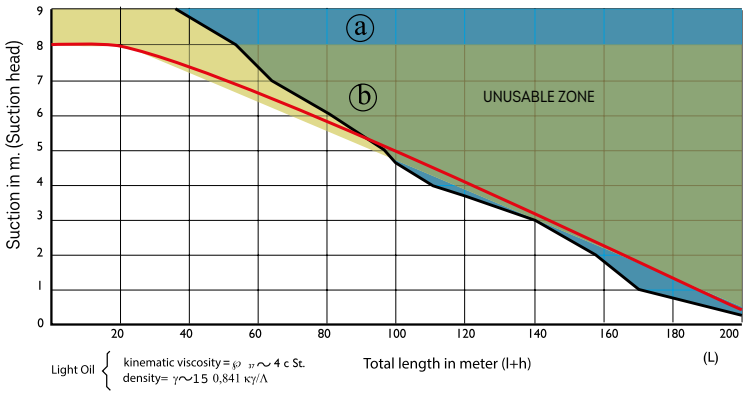
OIL SUCTION TRANSFER UNITS
GPS N - 1 PUMP

MODEL		GPS-35 N	GPS-70 N	GPS-130 N	GPS-200 N	GPS-350 N	GPS-950 N	GPS-1500 N
FLOW	l/h	30	70	130	200	350	950	1.500
POWER SUPPLY	VOLTS	230/400 mono phase	230/400 tri-phase (*)	230/400 tri-phase (*)	230/400 tri-phase (*)	230/400 tri-phase (*)	230/400 tri-phase (*)	230/400 tri-phase (*)
MOTOR POWER	C.V.	1/6	1/4	1/3	1/3	1/3	3/4	1
	KW	0,12	0,18	0,25	0,25	0,25	0,55	0,75
RECOMMENDED SUCTION PIPE	mm Ø (OD)	12	15	15	18	22	25	32
POWER	BSP Thread	G 3/8"F	G ½"F	G ½"F	G ¾"F	1"F	1"F	1"F
RETURN PIPE BURNER	mm ø PIPING	G 3/8"F	G ½"F	G ½"F	G ½"F	1"F	1"F	1"F
TANK CAPACITY	lts.	13,6	35	35	35	163	163	217
MOTOR PROTECTION	IP	20	55	55	55	55	55	55

- (*) There is a 230 single-phase version (W). Other voltages under request.



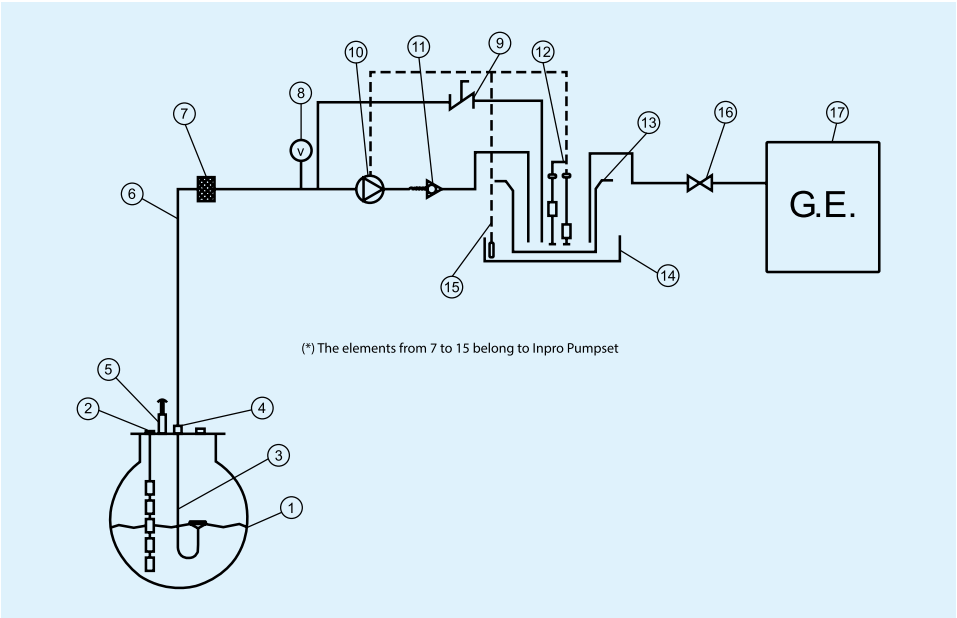
MODEL	GPS-35 N	GPS-70 N	GPS-130 N	GPS-200 N	GPS-350 N	GPS-950 N	GPS-1500 N
A	260	370	370	370	370	600	600
B	390	640	640	640	640	1.030	1.030
C	360	400	400	400	400	650	650
D	260	–	–	–	–	–	–
E	40	–	–	–	–	–	–
F	410	430	430	430	850	850	850
G	460	670	670	670	900	900	900
H	80	120	120	120	220	220	220
Approx. Weight (kg)	10	35	36	36	75	75	75



Suction curves and total length

ⓐ GPS-35N /GPS-35 GE/ GPS-70 N / GPS-70 GE / GPS-35 DRUCK

ⓑ GPS-130N-GE / GPS-200 N-GE / GPS-350 N-GE / GPS-950 N-GE



1) Main storage tank
2) Remote level gauge
3) Floating suction
4) Manhole
5) Ventilation tee
6) Intake pipe
7) (*) Filter
8) (*) Vacuum gauge
9) (*) by-pass valve
10) (*) electric gear pump
11) (*) anti-return valve
12. (*) Safety/service switches (level)
13) (*) Tank
14) (*) Drip tray
15) (*) Leak detection
16) Quick shut-off valve
17) Burner/boiler

GPS N Suction feed pump units for EL heating oil, individual units, including oil drip tray and leakage oil detector

Scope of delivery: tank, motor, gear pump, coupling, manifold, filter, vacuum gauge, non-return valve, level switch operation/safety, thermostat set at 40ºC, motor circuit breaker. Assembled ready for connection. Standard version with two burner pipe connections and one return line connection. With voltage-free signal output. Additional suction line connections at an additional cost. Installed in oil drip pan with leakage oil detector with infrared probe and 0.75 m. cable. For floor installation; GPS-35 also suitable for wall mounting.

Motor protection class IP-55

Basically, the flow rate depends on suction length, suction resistance, suction height, pipe cross-section and temperature (see diagram). The devices are not suitable for outdoor installation.

The unit is built and tested according to DIN EN 12514-1.

Technical Characteristics

- Voltage free general alarm outlet.
- Output to attach anti-siphon solenoid valve.
- Oil leak collector tray with infrared detector.
- Safety thermostat (40° C) for temperature gasification.
- 2 burner connections and 1 return connection.

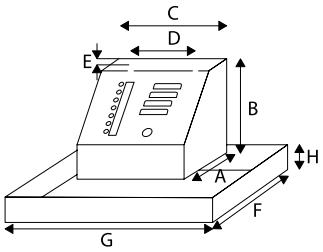
Accessories and adaptations

- 8 free relay outputs to control incidents from centralised post / BMS (2-Thermal, 2-Motors ON, Low level, High Level, Temperature above 40° C, and Leak detection ON)
- GSM alarm system by means of SMS messages, or connection to modem.
- Adaptation of Suction Groups with greater tank capacity for installations designed for Power Generators, replacing the daily tank.
- Modifications for extreme environments or subject to regulations (Tropicalisation, ATEX, etc.)
- Solenoid valves for siphon installations.
- Additional suction intakes for more burners.

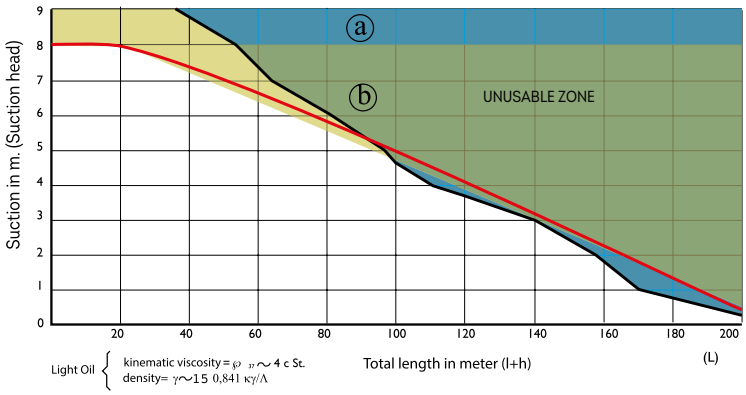
OIL SUCTION TRANSFER UNITS
GPS GE - 2 PUMPS / TWIN SYSTEM

TYP		GPS-35 GE	GPS-70 GE	GPS-130 GE	GPS-200 GE	GPS-350 GE	GPS-950 GE	GPS-1500 GE
FLOW	l/h	30	70	130	200	350	950	1.500
POWER SUPPLY	VOLTS	230 Single-phase	230/400 Tri-phase(*)	230/400 Tri-phase(*)	230/400 Tri-phase(*)	230/400 Tri-phase(*)	230/400 Tri-phase	230/400 Tri-phase
RECOMMENDED SUCTION PIPE	mm Ø (OD)	12	15	15	18	22	25	32
MOTOR POWER	C.V.	1/6	1/4	1/3	1/3	1/3	3/4	1½
	KW	0,12	0,18	0,25	0,25	0,25	0,55	1,1
SUCTION	(mm) Ø PIPINGD	G 3/8"F	G ½"W	G ½"F	G ¾"F	1"F	1"F	1"F
RETURN PIPE BURNER	BSP THREAD	G 3/8"F	G ½"F	G ½"F	G ½"F	1"F	1"F	1"F
TANK CAPACITY	lts.	24	68	68	68	238	238	245
SOUND LEVEL	dB (A)	46	48	49	49	49	49	49
MOTOR PROTECTION	IP	20	55	55	55	55	55	55

- (1) There is a 230 single-phase version (W). Other voltages under request
- For flow see sucton diagramas.



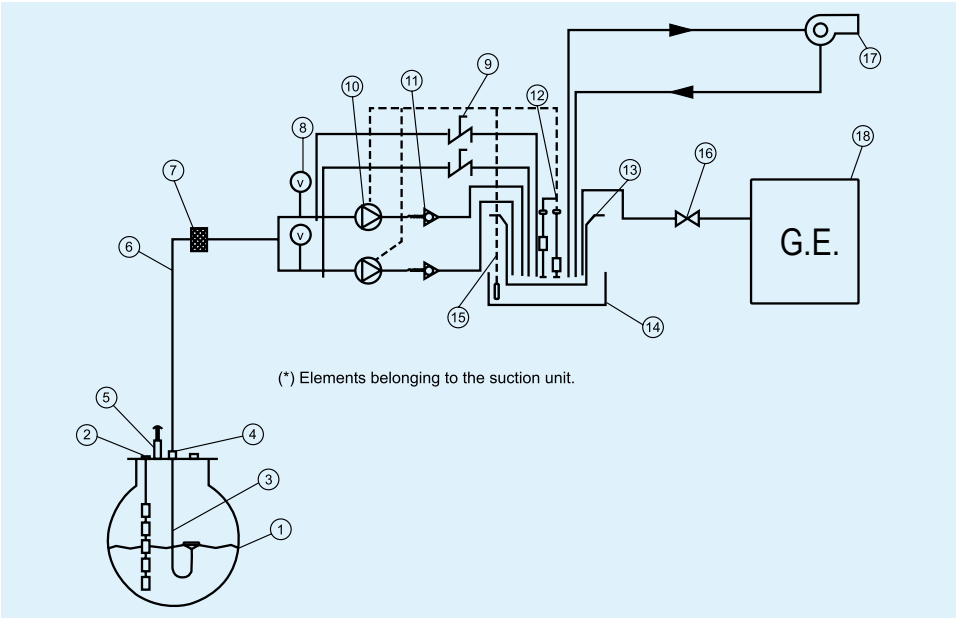
TYP	GPS-35 GE	GPS-70 GE	GPS-130 GE	GPS-200 GE	GPS-350 GE	GPS-950 GE	GPS-1500 GE
A	263	370	370	370	600	600	600
B	370	640	640	640	1.030	1.030	1.030
C	680	760	760	760	960	960	960
D	540	–	–	–	–	–	–
E	20	–	–	–	–	–	–
F	400	430	430	430	1.090	1.090	1.090
G	800	870	870	870	1.100	1.100	1.100
H	80	185	185	185	200	200	200
Approx. Weight (kg)	18	48	50	50	97	97	97



Suction curves and total length

ⓐ GPS-35N /GPS-35 GE/ GPS-70 N / GPS-70 GE / GPS-35 DRUCK

ⓑ GPS-130N-GE / GPS-200 N-GE / GPS-350 N-GE / GPS-950 N-GE



1) Main storage tank
2) Remote level gauge
3) Floating suction
4) Manhole
5) Ventilation tee
6) Intake pipe
7) (*) Filter
8) (*) Vacuum gauge
9) (*) by-pass valve
10) (*) electric gear pump
11) (*) anti-return valve
12) (*) Safety / service switches (level)
13) (*) Tank
14) (*) Drip tray
15) (*) Leak detection
16) Quick shut-off valve
17) Burner / boiler
18) Generator unit

GPS GE suction feed pump units for EL heating oil, twin units, including oil drain tray and leakage oil detector

Scope of delivery: tank, 2 motors, 2 gear pumps, coupling, manifold, filter, vacuum gauge, non-return valve, level switch operation/shear, thermostat 40ºC (preset), motor protection switch. Assembled ready for connection. Standard version with two suction line connections and a return supply connection. With voltage-free signal output. Additional suction line connections at an additional cost. Installed in oil drip tray with leakage oil detector with infrared probe and 0.75 m. cable. For floor installation; GPS-35 also suitable for wall mounting.

Motor protection class IP-55.

Basically, the flow rate depends on suction length, suction resistance, suction height, pipe cross-section and temperature (see diagram). The devices are not suitable for outdoor installation.

The unit is built and tested according to DIN EN 12514-1

Technical Characteristics

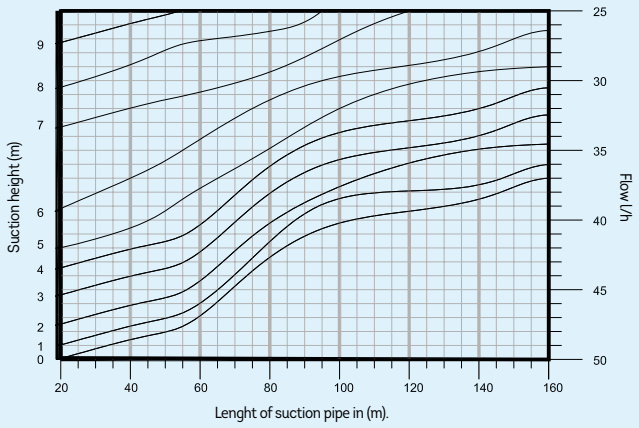
- Voltage free general alarm outlet.
- Output to attach anti-siphon solenoid valve.
- Oil leak collector tray with infrared detector.
- Safety thermostat (40ºC) for temperature gasification.
- Suction pipe couplings for two burners and one for returns.

Accessories and adaptations

- 8 free relay outputs outlets to control incidents from centralised post / BMS (2-Thermal, 2-Motors ON, Low Level, High Level, Temperature above 40ºC, and Leak detection ON).
- GSM alarm system by means of SMS messages, or connection to modem.
- Adaptation of Suction Groups with greater tank capacity for installations designed for Power Generators, replacing the daily tank.
- Modifications for extreme environments or subject to regulations (Tropicalisation, ATEX, etc.)
- Solenoid valves for siphon installations.
- Additional suction intakes for more burners.

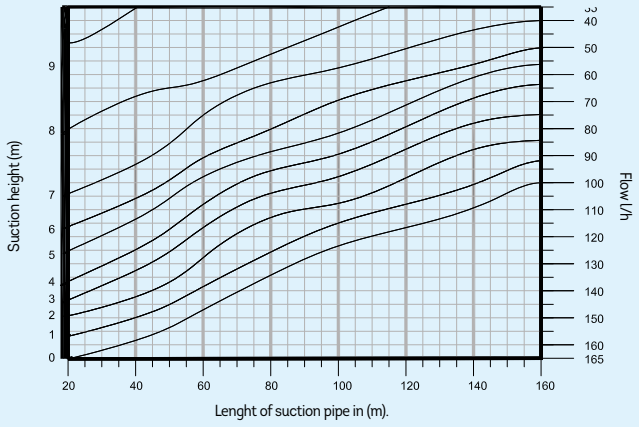
SUCTION DIAGRAMS FOR GPS

SUCTION DIAGRAM FOR GPS-35



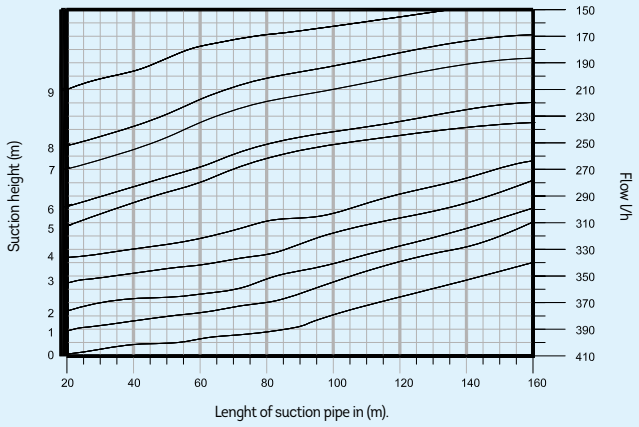
Tested with standard diesel oil at 20° C pipe diameter 15x13

SUCTION DIAGRAM FOR GPS-130



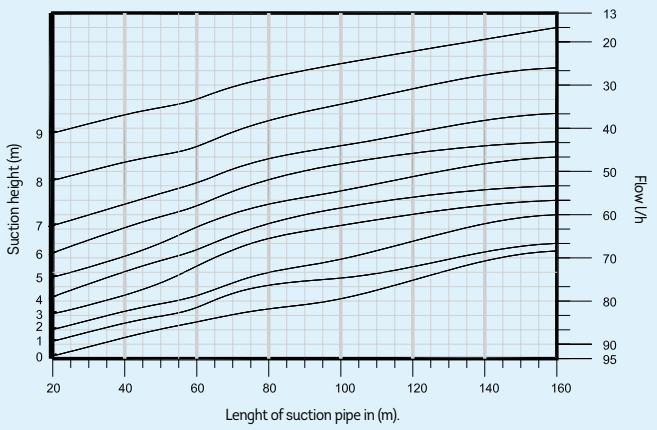
Tested with standard diesel oil at 20° C pipe diameter 15x13

SUCTION DIAGRAM FOR GPS-350



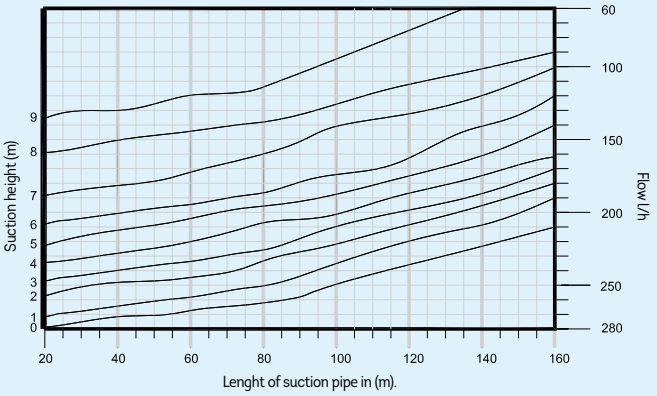
Tested with standard diesel oil at 20° C pipe diameter 22x20

Suction diagram for GPS-70



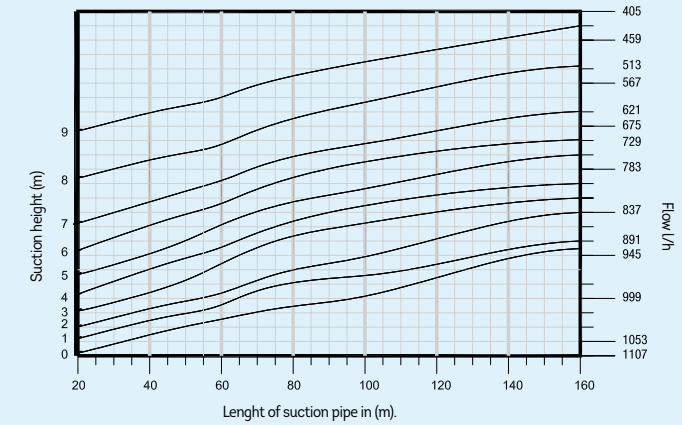
Tested with standard diesel oil at 20° C pipe diameter 15x13

Suction diagram for GPS-200



Tested with standard diesel oil at 20° C pipe diameter 22x20

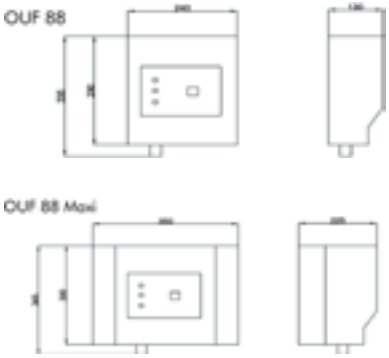
Suction diagram for GPS-950



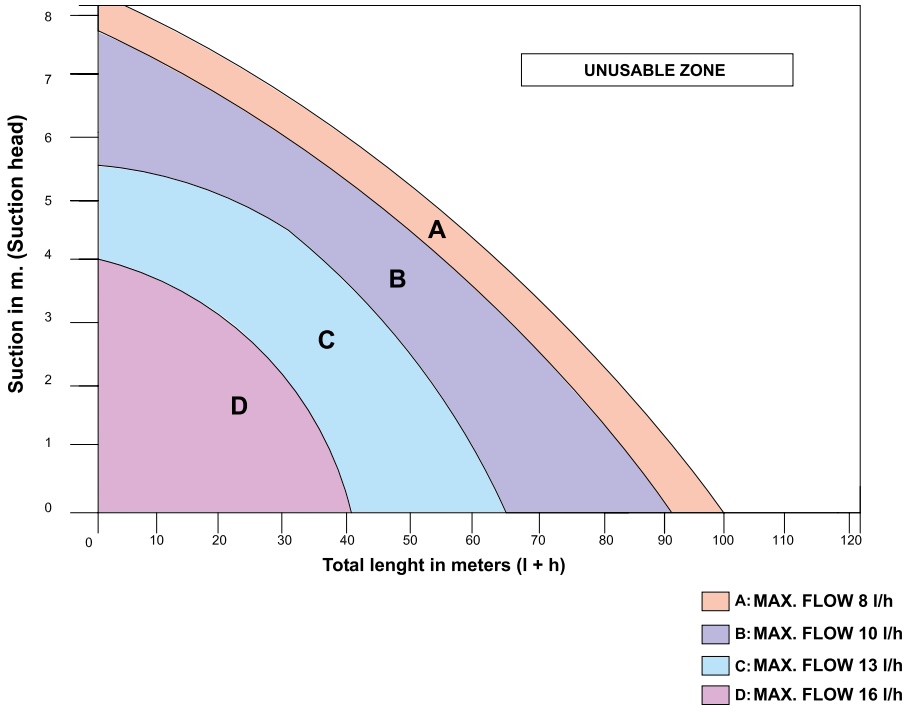
Tested with standard diesel oil at 20° C pipe diameter 26x34

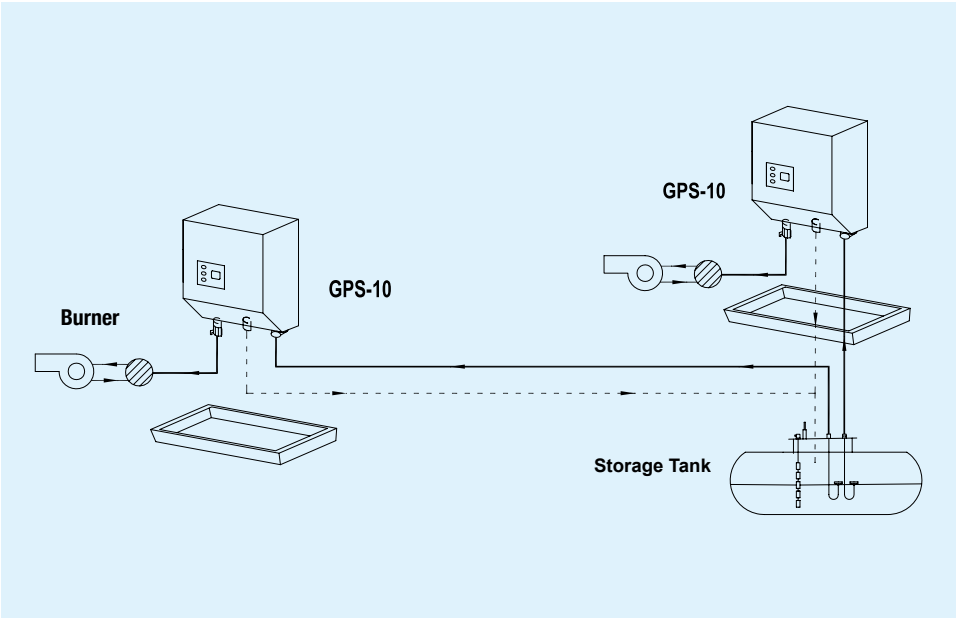
OIL SUCTION TRANSFER UNIT GPS-10

PUMP TYPE	Suction Solenoid Pump
LIFTING HEIGHT (MAX.)	8 m. vertical (8 mm I.D. tube)
MÁX. HORIZONTAL DISTANCE	100 m. horizontal (8 mm I.D.. tube)
OUTLET FLOW RATING (8 MM I.D. TUBE)	8 l/hr at: 8 m vertical & 25 m horizontal 15 l/hr at: 5 m vertical & 25 m horizontal
INLET CONNECTION	3/8" F BSP
OUTLET CONNECTION	3/8" F BSP
OVERFLOW OUTLET CONNECTION	1/2" F BSP
POWER SUPPLY	AC 230V, 50Hz
POWER CONSUMPTION	50 W
RESERVOIR TOTAL CAPACITY	3,5 Litre
DIMENSIONS (W X D X H)	240 x 125 x 300 mm
WEIGHT	3 kg
FUEL TYPE	Kerosene & Diesel Oil



Suction diagram





Scope of delivery

Single unit, 230V single-phase powered, 3.5 litre reservoir, motor 230 V/20 watts, solenoid piston pump with non-return valve, filter, level switch (4 switching points = 2 x operation, 2 x safety), incl. oil drain tray and leakage oil detector, mounted ready for connection, for wall mounting. All units are built and tested according to DIN EN 12514-1.

GPS10 control board with solenoid valve output to be used if storage tank level is above GPS10 Level

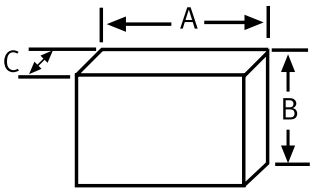
Accessories

- Fuel oil filter with recirculation inlet from burner 3/8"
- Solenoid valve 3/8" 230 V, normally closed

OIL TRANSFER PRESSURE UNITS
GP N - 1 PUMP

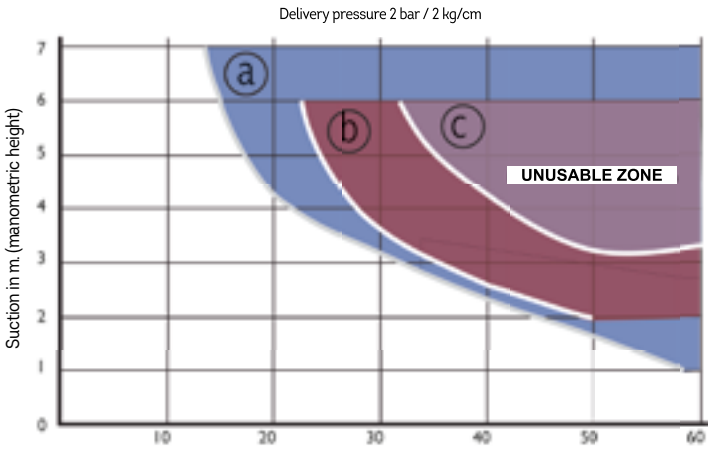
MODEL		GP-70 N	GP-130 N	GP-200 N	GP-300 N	GP-500 N	GP-800 N	GP-1500 N
FLOW	l/h	70	130	200	300	500	800	1.500
CONNECTION TO THE HYDRAULIC CIRCUIT (Ø THREAD / Ø MM)	SUCTION	1/2" F	1/2" F	1/2" F	3/4" F	1" F	1" F	1" F
	DRIVE	3/8" F	3/8" F	3/8" F	1/2" F	1/2" F	1/2" F	3/4" F
POWER SUPPLY	VOLTS	230/400 D	230/400 D	230/400 D	230/400 D	230/400 D	230/400 D	230/400 D
MOTOR POWER	C.V.	1/4	1/3	1/3	1/3	1/2	3/4	1 1/2"
	KW	0,18	0,25	0,25	0,25	0,37	0,55	1,1
MAX. PRESSURE	Kg/cm²	3,5	3,5	3,5	6	6	6	6
SAFETY VALVE OPENS AT:	Kg	4	4	4	6,5	6,5	6,5	6,5
MOTOR PROTECTION	IP	55	55	55	55	55	55	55

- (*) There is a 230 single-phase version (W)
- Sound level: 58 db (A)



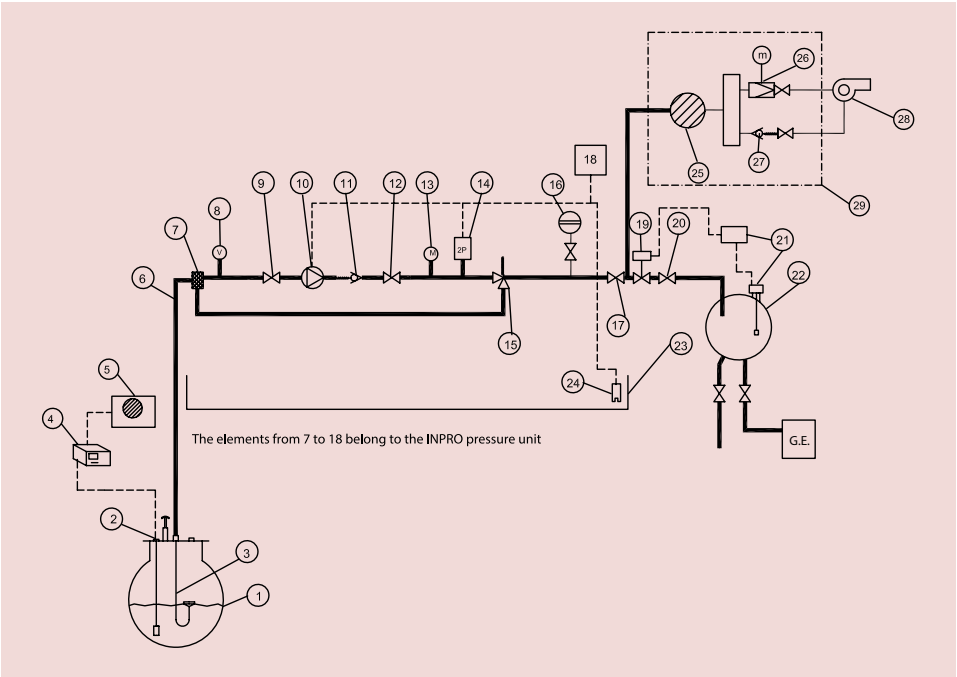
MODEL	GP-70 N	GP-130 N	GP-200 N	GPS-300 N	GP-500 N	GP-800 N	GP-1500 N
A	460	460	460	600	600	620	1.170
B	510	510	610	700	700	720	970
C	300	300	300	350	350	400	650
Approx. Weight (kg)	18,2	21,8	21,8	31,2	33,6	36	89

SUCTION DIAGRAM



UNUSABLE ZONE

ⓐ Pressure Unit GP-30
ⓑ Pressure Unit GP-70, GP-130 y GP-200
ⓒ Pressure Unit GP-300, GP-500, GP-800 y GP-1.500



1) Main storage tank
2) EDM-40 Remote level gauge probe
3) Floating suction
4) EDM-40 Remote level gauge screen
5) Overfill prevention kit
6) Intake pipe
7) Filter
8) Vacuum gauge
9) Quick shutoff valve
10) Electric gear pump
11) Anti-return valve
12) Quick shutoff valve (Only for GP-1500)
13) Pressure gauge
14) Dual purpose pressure switch
15) Conducted escape safety valve
16) Membrane expansion vessel
17) Quick shutoff valve
18) Motor protection GP
19) Solenoid valve
20) Flow limiter
21) SMMR 1 Level switch
22) Daily tank
23) Drip tray (included for GP-800 and above models)
24) Leak detection (included for GP-800 and above models)
25) Filter
26) Pressure reduction valve (using pressure gauge)
27) Non-return valve
28) Burner
29) Burner inlet assembly

GP N oil transfer pressure unit, one pump, for diesel oil and HVO

Scope of delivery: motor, gear pump, coupling, manifold, filter, vacuum gauge, pressure gauge, non-return valve, safety valve, shut-off valve for supply and discharge line, double function adjustable pressure switch, pressure accumulator with diesel oil-resistant membrane expansion vessel, safety valve opening at 4 or 6 bar -depending on model-. All parts mounted on a mounting plate, wired ready for connection, with oil collecting tray and leak detection sensor with 0.75 m probe cable. Voltage-free relay outputs for central building management control system, with 4 signals (BMS) (Inbuilt as standard in GP-800 and GP-1500).

Motor protection class IP-55.

The unit is built and tested according to DIN EN 12514-1

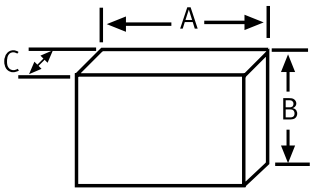
Accessories and adaptations

- Free voltage relay output to control from centralised Building Management System, in kit 3, 4 or 6 signals (2-thermal, motors 1 or 2 ON, low pressure and Leak safety ON).
- GSM alarm system by SMS messages, or connection to modem.
- Adaptation of Pressure Group for high pressure, working conditions of up to 6 Kg/cm
- Leak collector trays with infrared detectors (standard in GP-800 and GP-1500).
- Modifications to adapt to specifically regulated environments with tropicalised equipment or ATEX.
- Solenoid valves with low limiters, to automate filling in supply tanks for electrical generators.
- Soundproof sheet cabinets with UNE-25 poly-pyramid foam and lock. Manufactured with no back and made-to-measure for each Pressure Group model.
- Assembly of Pressure Groups in IP-55 cabinets for outdoor installation with exterior suction and drive pipe couplings, electric connection presses and ventilation grills.
- Line pressure switch to signal low pressure.
- Power supply failure safety system (timer deferred low pressure stop.)
- Burner inlet assembly.
- Modulating burner inlet assembly.

OIL TRANSFER PRESSURE UNITS
GP GE - 2 PUMPS / TWIN SYSTEM

MODEL		GP-70 GE	GP-130 GE	GP-200 GE	GP-300 GE	GP-500 GE	GP-800 GE	GP-1500 GE
FLOW	l/h	70	130	200	300	500	800	1.500
CONNECTION TO THE HYDRAULIC CIRCUIT (Ø THREAD / Ø MM)	SUCTION	1/2" F	1/2" F	1/2" F	3/4" F	1" F	1" F	1" F
	DRIVE	3/8" F	3/8" F	3/8" F	1/2" F	1/2" F	1/2" F	3/4" F
POWER SUPPLY	VOLTS	230/400 D	230/400 D	230/400 D	230/400 D	230/400 D	230/400 D	230/400 D
MOTOR POWER	C.V.	1/4	1/3	1/3	1/3	1/2	3/4	1 1/2"
	KW	0,18	0,25	0,25	0,25	0,37	0,55	1,1
MAX. PRESSURE	Kg/cm²	3,5	3,5	3,5	6	6	6	6
SAFETY VALVE OPENS AT:	Kg/cm²	4	4	4	6,5	6,5	6,5	6,5
MOTOR PROTECTION	IP	55	55	55	55	55	55	55

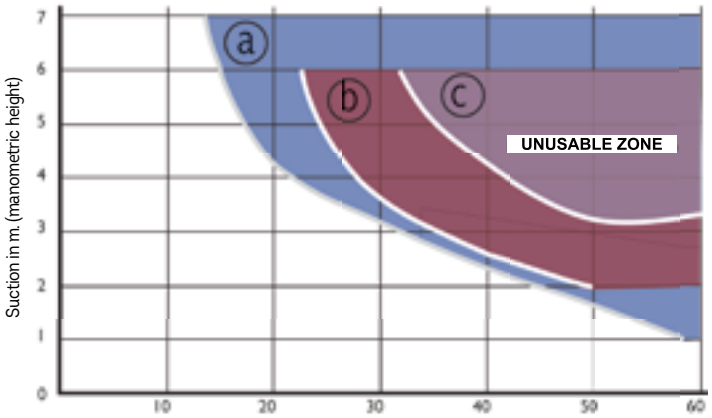
- (*) There is a 230 single-phase version (W)
- Sound level: 58 db (A)



TYP	GP-70 GE	GP-130 GE	GP-200 GE	GPS-300 GE	GP-500 GE	GP-800 GE	GP-1500 GE
A	700	700	700	800	800	890	1.455
B	530	530	630	720	720	750	970
C	300	300	330	370	370	400	550
Approx. Weight (kg)	31,4	34,4	35,8	43,4	53	89	89

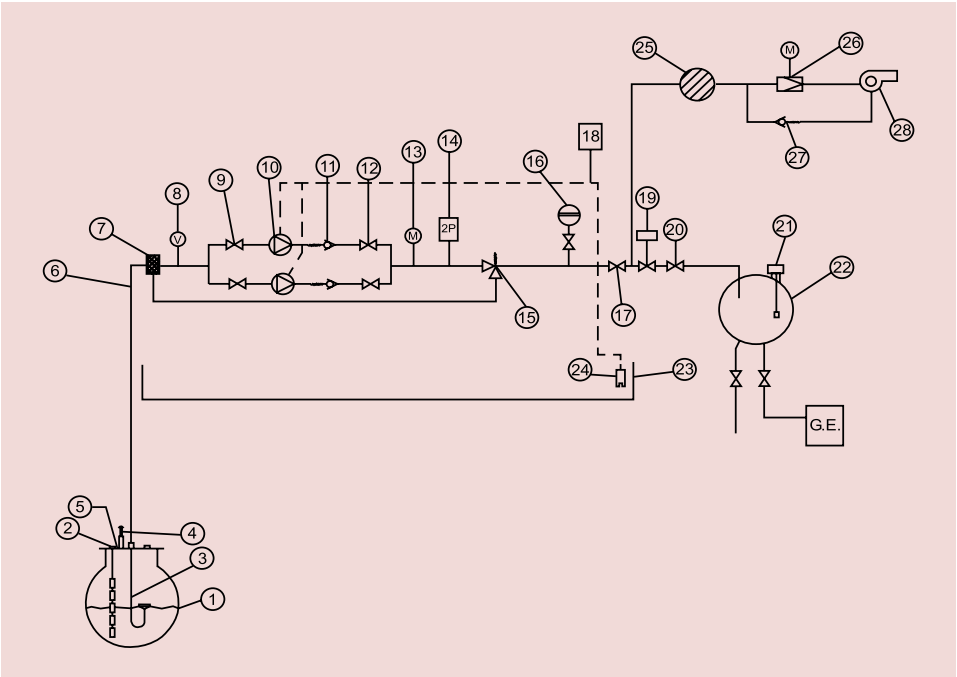
SUCTION DIAGRAM

Delivery pressure 2 bar / 2 kg/cm



UNUSABLE ZONE

ⓐ Pressure Unit GP-30
ⓑ Pressure Unit GP-70, GP-130 y GP-200
ⓒ Pressure Unit GP-300, GP-500, GP-800 y GP-1.500



1) Main storage tank
2) EDM-40 Remote level gauge probe
3) Floating suction
4) EDM-40 Remote level gauge screen
5) Overfill prevention kit
6) Intake pipe
7) Filter
8) Vacuum gauge
9) Quick shutoff valve
10) Electric gear pump
11) Anti-return valve
12) Quick shutoff valve (Only for GP-1500)
13) Pressure gauge
14) Dual purpose pressure switch
15) Conducted escape safety valve
16) Membrane expansion vessel
17) Quick shutoff valve
18) Motor protection GP
19) Solenoid valve
20) Flow limiter
21) SMMR 1 Level switch
22) Daily tank
23) Drip tray (included for GP-800 and above models)
24) Leak detection (included for GP-800 and above models)
25) Filter
26) Pressure reduction valve (using pressure gauge)
27) Non-return valve
28) Burner
29) Burner inlet assembly

GP GE oil transfer pressure unit, two pumps, for diesel oil and HVO

Scope of delivery: 2 motors, 2 gear pumps, coupling, manifold, filter, vacuum gauge, pressure gauge, check valve, shut-off valve for supply and discharge line, double function adjustable pressure switch, pressure accumulator with diesel oil-resistant membrane expansion vessel, safety valve opening at 4 or 6 bar -depending on model-. All parts mounted on a mounting plate, wired ready for connection, with oil collecting tray and leak detection sensor with 0.75 m probe cable. Voltage-free relay outputs for central building management control system, with 6 signals (BMS) (Inbuilt as standard in GP-800 and GP-1500).

Motor protection class IP-55.

The unit is built and tested according to DIN EN 12514-1

Accessories and adaptations

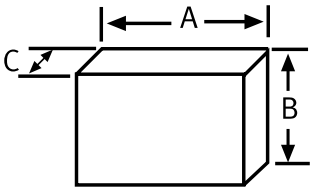
- Free voltage relay output to control from centralised Building Management System, in kit 6 signals (2-thermal, motors 1 or 2 ON, low pressure and Leak safety ON). Standard in GP 800 and GP 1500.
- GSM alarm system by SMS messages, or connection to modem.
- Adaptation of Pressure Group for high pressure, working conditions of up to 6 Kg/cm
- Leak collector trays with infrared detectors (standard in GP-800 and GP-1500).
- Modifications to adapt to specifically regulated environments with tropicalised equipment or ATEX.
- Solenoid valves with flow limiters, to automate filling in supply tanks for electrical generators.
- Soundproof sheet cabinets with UNE-25 poly-pyramid foam and lock. Manufactured with no back and made-to-measure for made-to-measure each Pressure Group model.
- Assembly of Pressure Groups in IP-55 cabinets for outdoor installation with exterior suction and drive pipe couplings, electric connection presses and ventilation grills.
- Line pressure switch to signal low pressure.
- Power supply failure safety system (timer deferred low pressure stop.)
- Burner inlet assembly.
- Modulating burner inlet assembly.

This is a product suitable for projects.
See all Inpro project references here

OIL TRANSFER PRESSURE UNITS
GP GC HIGH FLOW SYSTEMS

MODEL		GP-2200 NT GP-2200 GE	GP-3200 NT GP-3200 GE	GP-4200 NT GP-4200 GE	GP-6500 NT GP-6500 GE	GP-8500 NT GP-8500 GE	GP-12000 NT GP-12000 GE
FLOW	l/h	2.200	3.200	4.200	6.500	8.500	12.000
CONNECTION TO THE HYDRAULIC CIRCUIT (Ø THREAD / Ø MM)	SUCTION	1" F	1 1/2" F	1 1/2" F	2" F	2" F	2" F
	DRIVE	3/4" F	1" F	1" 1/4" F	1" 1/2" F	1" 1/2"F	2" F
POWER SUPPLY	VOLTS	400 D	400 D	400 D	400 D	400 D	400 D
MOTOR POWER	C.V.	1/4	1/3	1/3	1/3	1/2	3/4
	KW	0,18	0,25	0,25	0,25	0,37	0,55
MAX. PRESSURE	Kg/cm²	3,5	3,5	3,5	6	6	6
SECURITY VALVE OPEN AT:	Kg/cm²	4	4	4	6,5	6,5	6,5
MOTOR PROTECTION	IP	55	55	55	55	55	55

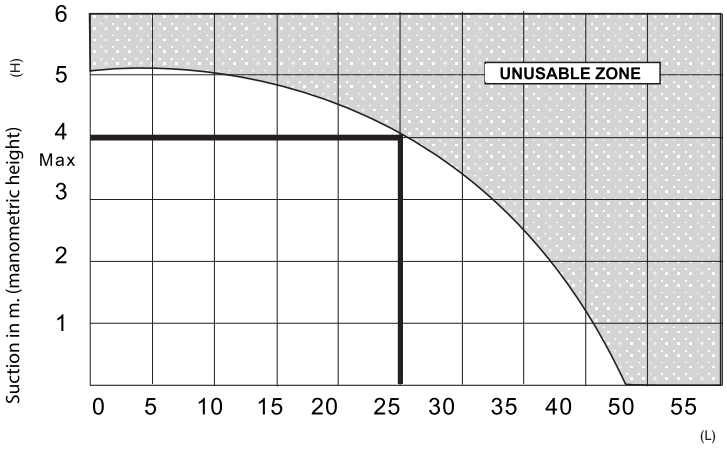
- Subject to technical changes.

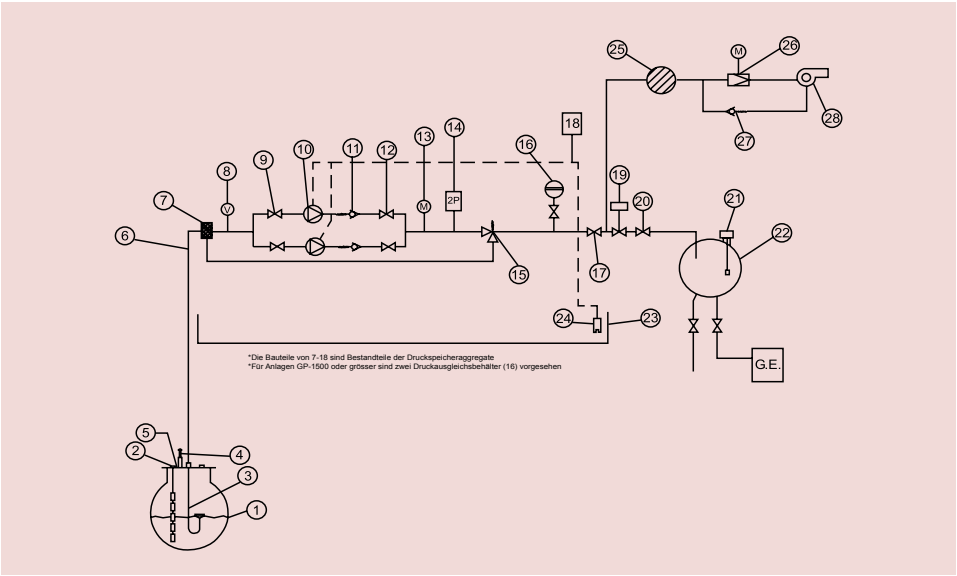


MODEL	GP-2200 GC	GP-3200 GC	GP-4200 GC	GP-6500 GC	GP-8500 GC	GP-12000 GC
A	1.150	1.150	1.150	1.150	1.150	1.150
B	910	910	910	910	910	910
C	1.610	1.610	1.610	1.610	1.610	1.610
Approx. Weight NT (kg)	99	105	110	120	135	140
Approx. Weight GE (kg)	117	127	136	147	164	171

SUCTION DIAGRAM

Light Oil | kinematic viscosity = $\boxtimes_{37}$ ~ 4 c St.
density = χ_{15} ~ 0,841 κγ./Λ.





1) Main storage tank
2) Remote level gauge
3) Floating suction
4) Ventilation Tee
5) Manhole
6) Suction pipe
7) Filter
8) Vacuum gauge
9) Quick shutoff valve
10) Electric gear pump
11) Anti-return valve
12) Quick shutoff valve (Only for GP-1500)
13) Pressure gauge
14) Dual-purpose pressure switch
15) Conducted escape safety valve
16) Membrane expansion vessel
17) Quick shutoff valve
18) Electric control system for the pressure unit (alternative command)
19) Electrically operated valve
20) Flow limiter
21) SMMR 1 Level switch
22) Daily tank
23) Drip tray
24) Leak detection
25) Filter
26) Pressure gauge
27) Non-return valve
28) Burner

GP GC N Pressure accumulator unit, one pump, for heating oil and HVO

Scope of delivery: motor, gear pumping station, coupling, manifold, filter, vacuum gauge, pressure gauge, check valve, safety valve, shut-off valve for supply and discharge line, double function pressure switch adjustable, 4 pressure accumulators with diesel oil-resistant membrane expansion vessel, safety valve opening at 4.5 bar (higher pressure possible on request) - please specify when ordering. All parts mounted on a mounting plate, wired ready for connection, with oil collecting tray and leak detection sensor with 0.75 m probe cable. Voltage-free relay outputs for central building management control system, with 4 signals (BMS). Motor-thermal protection. Potential-free relay outputs for central building management control system, with 4 signals (BMS).

GP GC GE Pressure accumulator units, twin units, for heating oil and HVO

Scope of delivery: 2 motors, 2 gear pumping stations, coupling, manifold, filter, vacuum gauge, pressure gauge, non-return valve, high-pressure relief valve, shut-off valve for supply and discharge line, double function pressure switch adjustable, 4 pressure accumulators with diesel oil-resistant membrane expansion vessel, safety valve opening at 4.5 bar (higher pressure possible on request) - please specify when ordering. All parts mounted on a mounting plate, wired ready for connection, with oil collecting tray and leak detection sensor with 0.75 m probe cable. Voltage-free relay outputs for central building management control system, with 4 signals (BMS). Motor-thermal protection. Potential-free relay outputs for central building management control system, with 6 signals (BMS).

The unit is built and tested according to DIN EN 12514-1

Accessories and adaptations

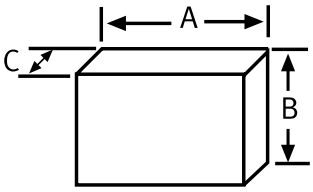
- Free voltage relay output to control from centralised Building Management System, in kit 3, 4 or 6 signals (2-thermal, motors 1 or 2 ON, low pressure and Leak safety ON).
- GSM alarm system by SMS messages, or connection to modem.
- Adaptation of Pressure Group for high pressure, working conditions of up to 6Kg/cm^2
- Leak collector trays with infrared detectors (standard in GP-800 and GP-1500).
- Modifications to adapt to specifically regulated environments with tropicalised equipment or ATEX.
- Solenoid valves with flow limiters, to automate filling in supply tanks for electrical generators.
- Soundproof sheet cabinets with UNE-25 poly-pyramid foam and lock. Manufacturated with no back and made-to-measure for each Pressure Group model.
- Burner inlet assembly.
- Modulating burner inlet assembly.

This is a product suitable for projects.
See all Inpro project references here

OIL TRANSFER PRESSURE UNITS
GP H HIGH PRESSURE SYSTEMS
Single Pipe

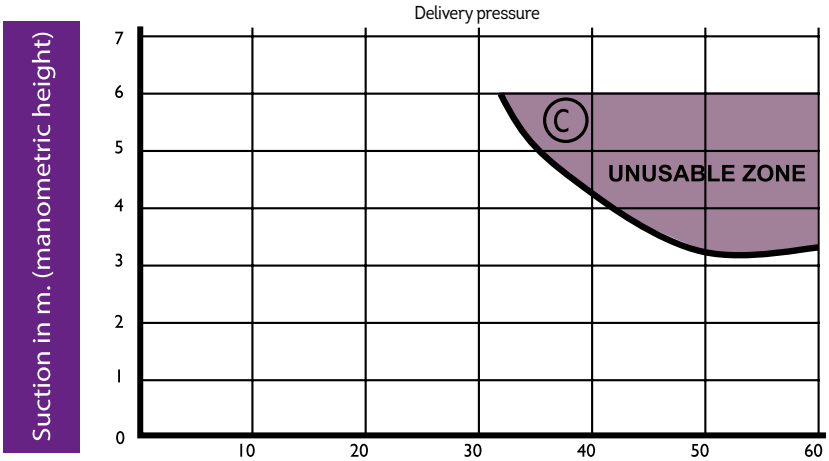
MODEL		GP-300 H GE	GP-500 H GE	GP-800 H GE	GP-1.500 H GE
FLOW	l/h	300	500	800	1.500
CONNECTION TO THE HYDRAULIC CIRCUIT (Ø THREAD / Ø MM)	SUCTION	3/4"	3/4"	1"	1"
	DRIVE	1/2"	1/2"	1/2"	3/4"
POWER SUPPLY	VOLTS	230/400	230/400	230/400	230/400
MOTOR POWER	C.V.	1/2	1/2	3/4	1 1/2
	KW	0,25	0,37	0,55	1,1
MAX. PRESSURE	Kg/cm²	20	20	20	20
MOTOR PROTECTION	IP	55	55	55	55

* Also available in 230 V alternating current (WT)
- Subject to technical changes



MODEL	GP-200 GE	GP-300 GE	GP-500 GE	GP-800 GE	GP-1.500 GE
A	800	800	800	1200	1450
B	720	720	720	970	970
C	370	370	370	500	550
APPROX. WEIGHT (KG)	35,8	41,4	53	89	135

Suction diagram



Light Oil { kinematic viscosity = ℘ 37 ~ 4 c St. Total Length Meter
density = γ ~ 15 0,841 κγ/Λ

Unusable zone

Ⓒ GP-300, GP-500, GP-800 und GP-1.500

This is a product suitable for projects.
See all Inpro project references here

OIL TRANSFER PRESSURE UNITS
GP 30 PRESSURE ACCUMULATOR PUMP
Single Pipe

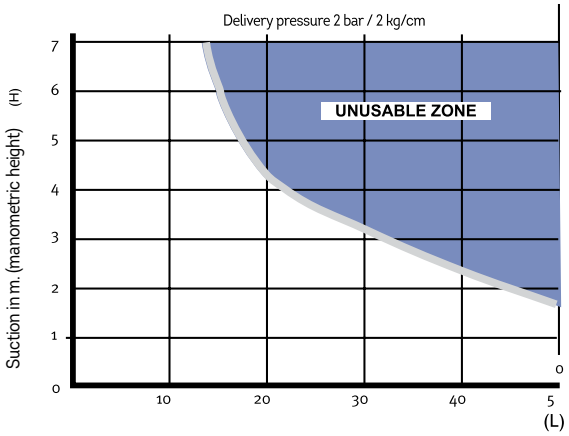
MODEL		GP-30 NW	GP-30 GEW
FLOW	L/H	30	30
CONNECTION TO THE HYDRAULIC CIRCUIT (Ø THREAD / Ø MM)	SUCTION	Ø 10 mm	Ø 10 mm
	DRIVE	3/8"	3/8"
POWER SUPPLY	VOLTS	230v - 50Hz	230v - 50Hz
CONSUMPTION	AMPS	1,38	1,38
MOTOR POWER	C.V.	1/6	1/6
	KW	0,125	0,125
MAX. PRESSURE	Kg/cm²	3,5	3,5
SAFETY VALVE OPENS AT:	Kg/cm²	4	4
SOUND LEVEL	dB (A)	58	58
MOTOR PROTECTION	IP	IP - 20	IP - 20
DIMENSIONS (mm)	B x H x T	240 x 330 x 205	800 x 460 x 250
APPROX. WEIGHT	Kg.	6,4	6,4

GP-30 Pressure accumulator unit, one pump, for heating oil and HVO

Scope of delivery: motor, gear pumping station, coupling, manifold, filter, vacuum gauge, pressure gauge, non-return valve, safety valve, shut-off valve for supply and discharge line, dual function pressure switch adjustable, pressure accumulators with diesel oil-resistant membrane expansion vessel, safety valve opening at 4 bar. All parts mounted on a mounting plate, wired ready for connection.

IP-20 protection.
The unit is built and tested according to DIN EN 12514-1

SUCTION DIAGRAM



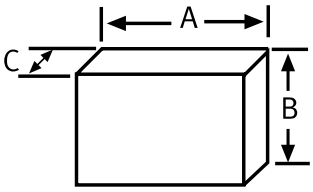
Light Oil { kinematic viscosity= γ37 ~4 c St.
density= √15~0,841 kg/l

UNUSABLE ZONE

ⓐ Pressure Unit GP-30

OIL TRANSFER PRESSURE UNITS DWA 60/120

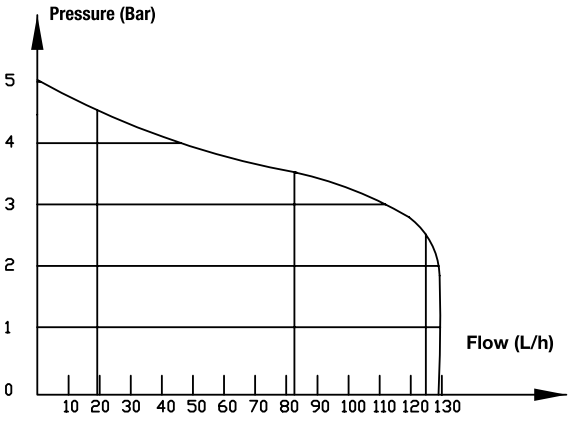
Pressure Accumulator Pump - Single Pipe

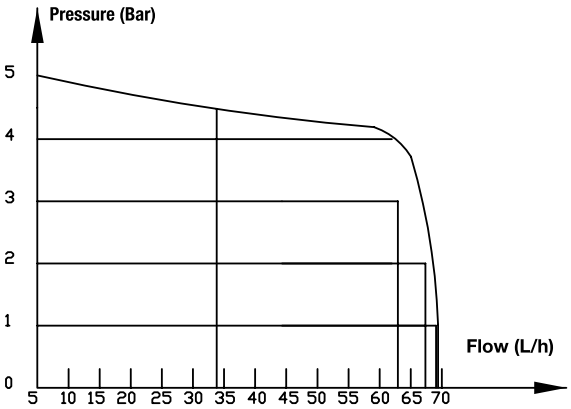


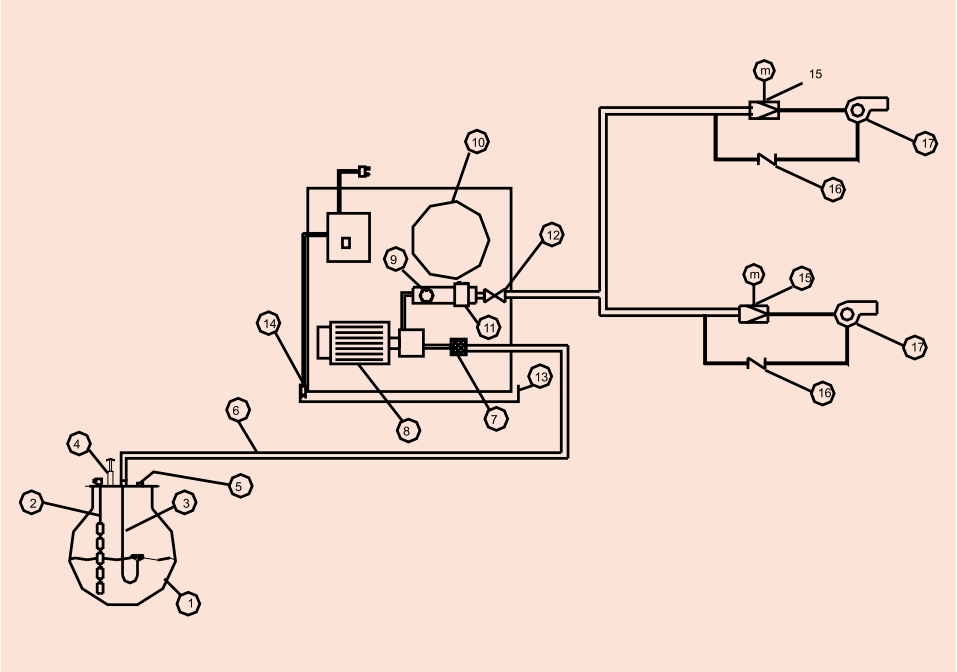
MODEL		DWA 60	DWA 120
FLOW	L/H	60	120
CONNECTION TO THE HYDRAULIC CIRCUIT (Ø THREAD / Ø MM)	SUCTION	1/2"	1/2"
	DRIVE	3/8"	3/8"
POWER SUPPLY 50 Hz	VOLTS	230 Alternating current	230 Alternating current
CONSUMPTION	AMPS	1,1	1,1
MOTOR POWER	kW	0,15	0,15
MAX. PRESSURE	bar	3	3
MAX. SUCTION LIFT	m	5	5
SECURITY VALVE OPEN AT:	bar	3,5	3,5
MOTOR PROTECTION	IP	44	44
DIMENSIONS (AxBxC)	mm	440x480x290	440x480x290
APPROX. WEIGHT	Kg.	13	13

- Suction/pressure connection: pipe thread
- We reserve the right to make technical changes

Flow diagram







1) Main storage tank
2) Tank monitoring gauge probe
3) Suction (without foot valve)
4) Vent
5) Manhole
6) Suction pipe
7) Filter
8) Motor pump gear type
9) Pressure gauge
10) Oil expansion vessel membrane type
11) Double function pressure switch
12) Ball valve
13) Oil collecting tray with leak detection (optional)
14) Infrared leak detection system
15) Pressure reducing valve with gauge
16) Non-return valve
17) Burner

DWA 60/120 Pressure Accumulator units

Scope of delivery:

Motor 230V, 0.15 Kw with gear pump, check valve, manometer, double function pressure switch (with low pressure stop), filter, membrane expansion vessel for diesel 5 litres, ball valve, motor starter with schucko european type plug.

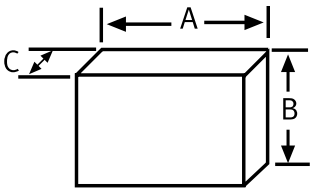
Option: Infrared leak detection system with oil collecting tray 620x230x60 mm
Hydraulic connection: 3/8" pressure, 1/2" suction. Maximum working pressure of 3.5 bar.
Size: Width 450 mm, height 450 mm, depth 300 mm Maximum suction lift of 5 m.
All parts are mounted on a mounting plate, system ready to be connected on installation.

DWA pumps are built and tested according to DIN EN 12514-1

OIL TRANSFER PRESSURE UNITS
FP ONE PUMP - FP ZW TWO PUMPS
System for Tank to Tank Transfer for Diesel and HVO

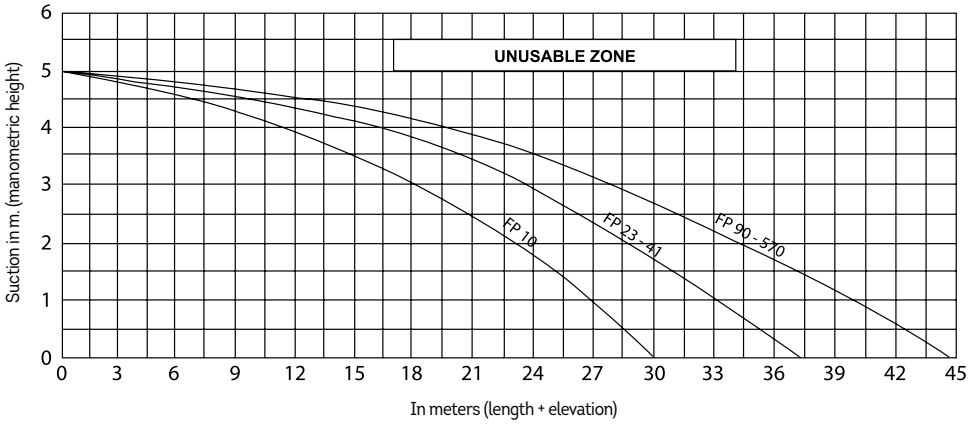
MODEL		FP 10	FP 23	FP 41	FP 90	FP 120	FP 240	FP 360	FP 570
FLOW	l/h	100	260	460	900	1.400	2.100	3.400	5.300
POWER SUPPLY	VOLT	400*	400*	400*	400	400	400	400	400
MOTOR POWER	KW	0,25	0,25	0,25	0,55	0,55	2,2	3	3
	C.V.	1/3	1/3	1/3	3/4	3/4	3	4	4
MOTOR	U/min-1	1.400	1.400	1.400	1.400	1.400	1.400	1.400	1.400
CONNECTION TO THE HYDRAULIC CIRCUIT (Ø THREAD / Ø MM)	SUCTION	1/2" iG	1/2" iG	1/2" iG	1" iG	1" iG	DN 32	DN 40	DN 40
	DRIVE	1/2" iG	1/2" iG	1/2" iG	3/4" iG	1" iG	DN 32	DN 40	DN 40
	OVERPRESSURE	1/2" iG	1/2" iG	1/2" iG	3/4" iG	1" iG	DN 32	DN 40	DN 40
SECURITY VALVE OPEN AT:	bar	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5
SOUND LEVEL	DB (A)	58	58	58	58	58	58	58	58
MOTOR PROTECTION	IP	55	55	55	55	55	55	55	55

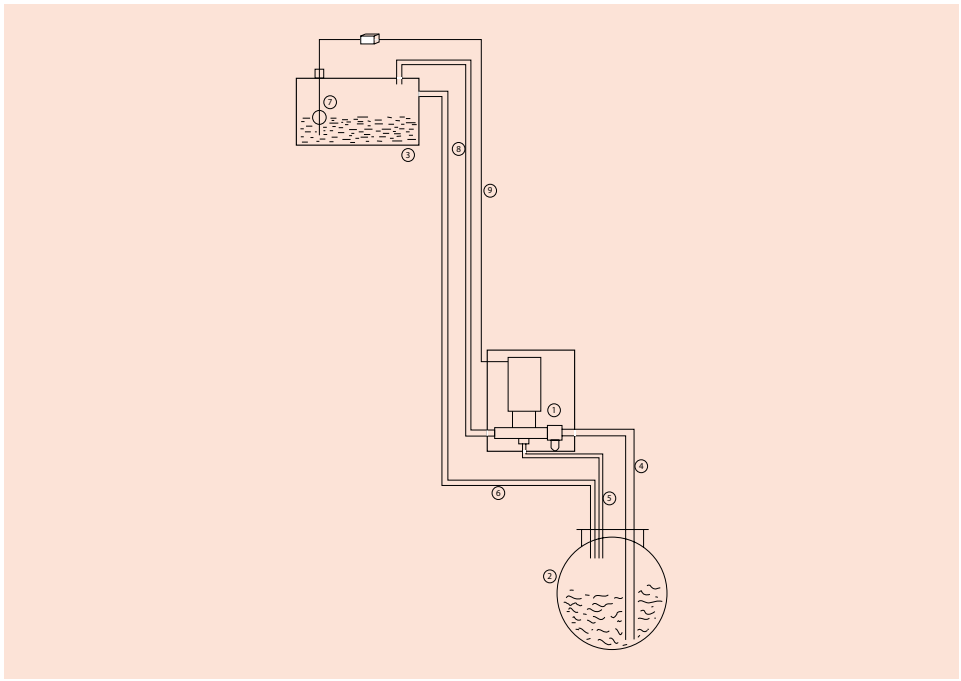
- (*) There is a 230 single-phase version power supply version (W)
- For other capacity and mediums, please consult.
- Threaded Flanges DIN 2566



MODEL	FP 10		FP 23		FP 41		FP 90		FP 120		FP 240		FP 360		FP 570	
	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW
A	595	870	595	870	595	870	595	890	595	890	1.200	1.200	1.200	1.300	1.200	1.300
B	575	720	575	720	575	720	575	790	575	790	1.000	1.000	1.000	1.000	1.000	1.000
C	240	240	240	300	240	300	240	350	240	400	500	850	500	850	500	850
APPROX. WEIGHT. (kg)	14	31	16	35	16	35	24	68	28	79	100	200	130	230	195	300

Suction diagram





1.- Pump Type FP
2.- Main tank
3.- Daily tank
4.- Suction pipe
5.- Overpressure pipe
6.- Overflow pipe
7.- SMMR 1 Level Switch
8.- Oil supply pipe
9.- Control line

List of parts in FP MODELS

One pump versions FP 10 - FP 570
Motor, flange, coupling, gear pump, overpressure valve, filter in suction side and vacuum meter, rigid pipe connections (steel), mounted in wall fixing frame until FP 120. Above FP 240, angle frame floor deck. Ready electrical assembly, switch, motor protection and connection for Level Switch. For easy connection we recommended SMMR1 level switch for your tank.

Two pumps versions FP 10 - FP 570 ZW
2 motors, flange, coupling, 2 gear pumps, overpressure valve, filter in suction side and vacuum meter, rigid pipe connections (steel), mounted in wall fixing frame until FP 120. Above FP 240, angle frame floor deck. Ready electrical assembly, electrical alternative switch, motor protection, and connection for Level Switch. For easy connection we recommend SMMR1 Level Switch for your tank.

Special Non-Ferrous metal free versions upon request.
For higher viscosities please consult for the suitable FP system specification.

Accessories and adaptations

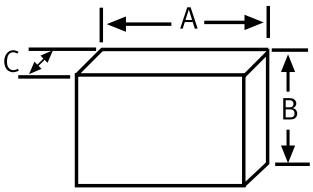
- Oil failure control system, to protect gears running with an empty tank.
- Free voltage relay output to control from centralised Building Management System, in kit 3, 4 or 6 signals (2-thermal, motors 1 or 2 ON, low pressure and Leak safety ON).
- GSM alarm system by SMS messages, or connection to modem.
- Adaptation of Pressure Group for high pressure, working conditions of up to 4,5 Kg/cm2.
- Leak collector trays with infrared detectors (standard in FP 240 and above).
- Modifications to adapt to specifically regulated environments (tropicalised equipment or ATEX.)
- Solenoid valves with flow limiters, to automate filling in supply tanks for electrical generators.
- Soundproof sheet cabinets with UNE-25 poly-pyramid foam and lock. Manufactured with no back and made-to-measure for each Pressure Group model.
- Assembly of Pressure Groups in IP-55 cabinets for outdoor installation with exterior suction and drive pipe couplings, electric connection presses and ventilation grills.
- Line pressure switch to signal low pressure.

This is a product suitable for projects.
See all Inpro project references here

OIL TRANSFER PRESSURE UNITS
RL ONE PUMP - RL ZW TWO PUMPS
Ring Transfer for Diesel and HVO

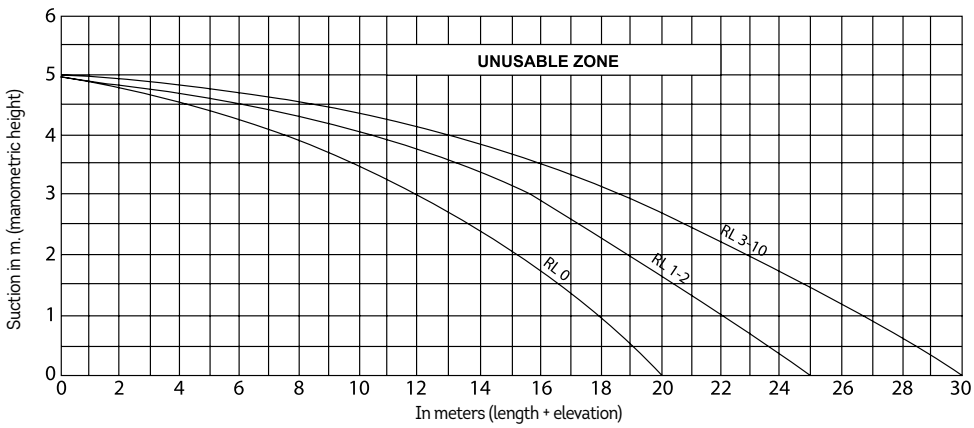
MODEL N / ZW		RL 0	RL 1	RL 2	RL 3	RL 4	RL 5	RL 6	RL 7	RL 8	RL 9	RL 10
MAX. FLOW	l/h	100	260	460	900	1.400	2.100	3.400	5.300	7.500	10.500	12.000
SUPPLY FLOW	l/h	65	150	300	600	900	1.400	2.300	3.600	4.900	7.000	8.000
SUPPLY VOLTAGE	VOLT	400*	400	400	400	400	400	400	400	400	400	400
MOTOR POWER	KW	0,25	0,25	0,25	0,55	0,55	2,2	3	3	4	4	4
	C.V.	1/3	1/3	1/3	3/4	3/4	3	4	4	5,5	5,5	5,5
MOTOR	U/min-1	1.420	1.420	1.420	1.420	1.420	1.420	1.420	1.420	1.420	1.420	1.420
CONNECTION TO THE HYDRAULIC CIRCUIT (Ø THREAD / Ø MM)	SUCTION	1/2" iG	DN 20	DN 20	DN 25	DN 25	DN 32	DN 40	DN 40	DN 40	DN 40	DN 40
	DRIVE	1/2" iG	DN 20	DN 20	DN 25	DN 25	DN 32	DN 40	DN 40	DN 40	DN 40	DN 40
	OVERPRESSURE	1/2" iG	1/2" iG	1/2" iG	3/4" iG	1" iG	DN 32	DN 40	DN 40	DN 40	DN 40	DN 40
SECURITY VALVE OPEN AT:	bar	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5
MAX. SUCTION	m	5	5	5	5	5	5	5	5	5	5	5
MOTOR PROTECTION	IP	55	55	55	55	55	55	55	55	55	55	55

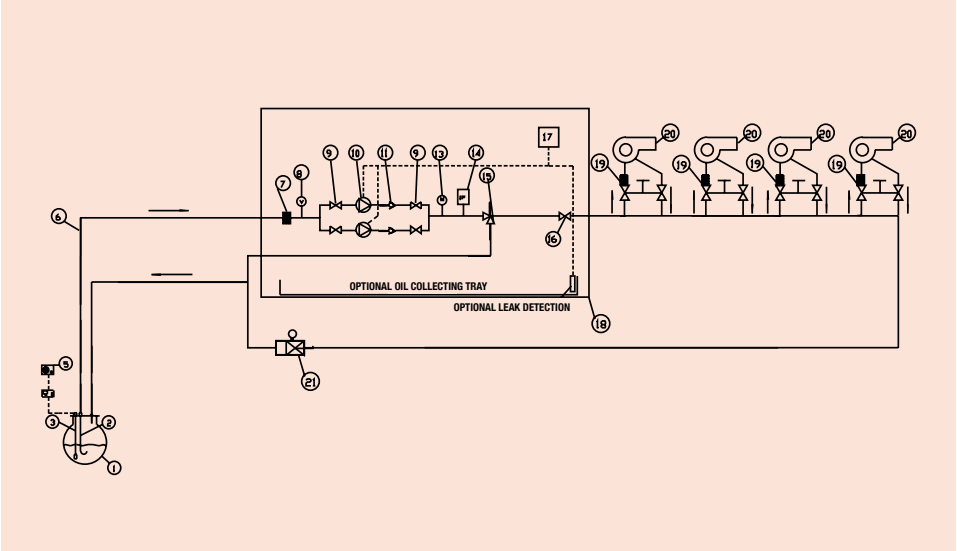
(*) There is a 230 single-phase version (W)
- Threaded Flanges DIN 2566



MODEL	RL 0		RL 1		RL 2		RL 3		RL 4		RL 5		RL 6		RL 7		RL 8		RL 9		RL 10	
	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW
A	595	870	595	870	595	870	870	890	870	890	1.200	1.300	1.200	1.300	1.200	1.300	1.200	1.300	1.200	1.300	1.200	1.300
B	575	720	575	720	575	720	720	790	720	790	1.000	1.000	1.000	1.000	1.000	1.000	1.100	1.100	1.100	1.100	1.100	1.100
C	240	300	240	300	240	300	300	350	300	400	500	850	500	850	500	850	500	850	500	850	500	850
APPROX. WEIGHT. (kg)	15	32	17	36	17	36	29	73	35	84	100	130	105	135	110	145	120	150	125	155	130	165

SUCTION DIAGRAM





1) Main storage tank
2) Suction pipe
3) Level gauge probe
4) EDM-40 level gauge indicator
5) Overfill safety system
6) Intake pipe
7) Filter
8) Vacuum gauge
9) 4 Non-return valve
10) 2 Electric gear pumps
11) Pressure gauge
12) Low level pressure switch
13) Conducted escape safety valve
14) Quick shutoff valve
15) Electric control system with timer
16) Degassing bottle
17) Quick shutoff valve
18) Burner
19) Aluminium selfclean filter
20) Burner

Contents list for RL Transfer Ring System One Pump Versions

Motor, flange, clutch, coupling, gear pump, filter, vacuumeter, pressure gange, pressure switch, security for pipe breaking or no fuel failure, motor protection with contactor, main switch, failure indicator, time delay pressure switch control for first runnings, overpressure security valve, flange or G inside tread connection to hydraulic circuit, free relay connections for failure signals out of the RL pump. All ready, mounted, fixed and electrically connected in wall plate. RL 5 and above in angle workframe.

Additionally, in Two Pumps versions:
Motor, flange, clutch, coupling, gear pump, Motor protection with contactor, alternating motor steering in time swap over. "IM" system to stop pumps when all burners are off is included (optional for RL-N).

Manufacturated and tested under DIN 12.514-1 (except RL 30 BIO).
Motor, flange, clutch, coupling, gear pump, Motor protection with contactor, alternating motor steering in time swap over. "IM" system to stop pumps when all burners are off is included (optional for RL-one pump).

Special Non-Ferrous metal free versions upon request.

Reference mark:
To maintain security disposals from DIN norm, the pressure regulation valve must be placed in the return pipe to tank in proximity to the tank.

Accessories and adaptations

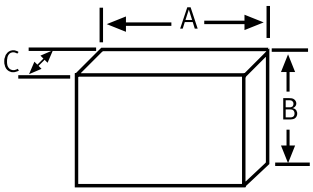
- IM system to stop pumps when all burners are off (optional for RL-N)
- Free voltage relay output to control from centralised Building Management System, in kit 3, 4 or 6 signals (2-thermal, motors 1 or 2 ON, low pressure and Leak safety ON).
- GSM alarm system by SMS messages, or connection to modem.
- Adaptation of Pressure Group for high pressure, working conditions of up to 6,5 Kg/cm^2
- Leak collector trays with infrared detectors (standard in RL-4 and above).
- Modifications to adapt to specifically regulated environments (tropicalised equipment or ATEX.)
- Solenoid valves with flow limiters, to automate filling in supply tanks for electrical generators.
- Soundproof sheet cabinets with UNE-25 poly-pyramid foam and lock. Manufactured with no back and made-to-measure for each Pressure Group model.
- Assembly of Pressure Groups in IP-55 cabinets for outdoor installation with exterior suction and drive pipe couplings, electric connection presses and ventilation grills.
- Line pressure switch to signal low pressure.
- Power supply failure safety system (timer deferred low pressure stop.)

This is a product suitable for projects.
See all Inpro project references here

OIL TRANSFER PRESSURE UNITS
FP ONE PUMP - FP ZW TWO PUMPS
System for Tank to Tank Transfer for B100

MODEL		FP 10	FP 23	FP 41	FP 90	FP 120	FP 240	FP 360	FP 570
FLOW	l/h	100	260	460	900	1.400	2.100	3.400	5.300
POWER SUPPLY	VOLTS	400*	400*	400*	400	400	400	400	400
MOTOR POWER	KW	0,25	0,25	0,25	0,55	0,55	2,2	3	3
	C.V.	1/3	1/3	1/3	3/4	3/4	3	4	4
MOTOR	r.p.m.	1.400	1.400	1.400	1.400	1.400	1.400	1.400	1.400
CONNECTION TO THE HYDRAULIC CIRCUIT (Ø THREAD / Ø MM)	SUCTION	1" iG	1" iG	1" iG	DN 32	DN 32	DN 50	DN 50	DN 50
	DRIVE	1" iG	1" iG	1" iG	DN 32	DN 32	DN 50	DN 50	DN 50
	OVERPRESSURE	3/4" iG	3/4" iG	3/4" iG	1" iG	1" iG	DN 40	DN 40	DN 40
SECURITY VALVE OPEN AT:	bar	5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8
SOUND LEVEL	dB (A)	58	58	58	58	58	58	58	58
MOTOR PROTECTION	IP	55	55	55	55	55	55	55	55

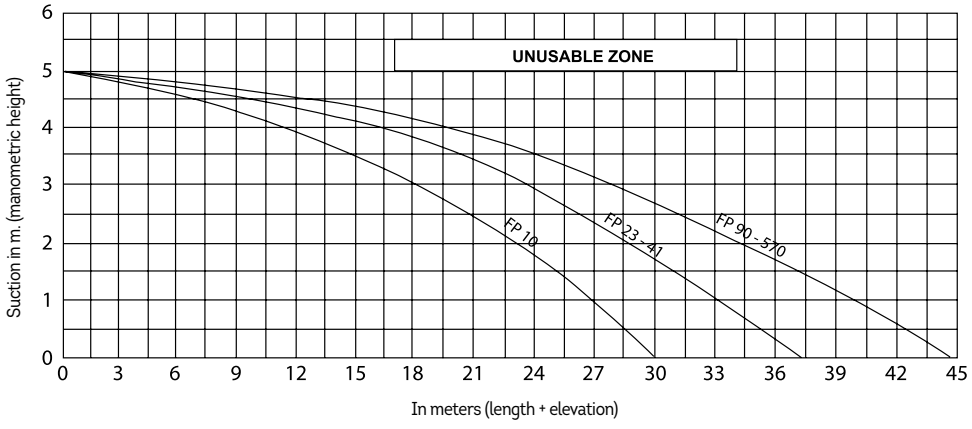
- Threaded Flanges DIN 2566

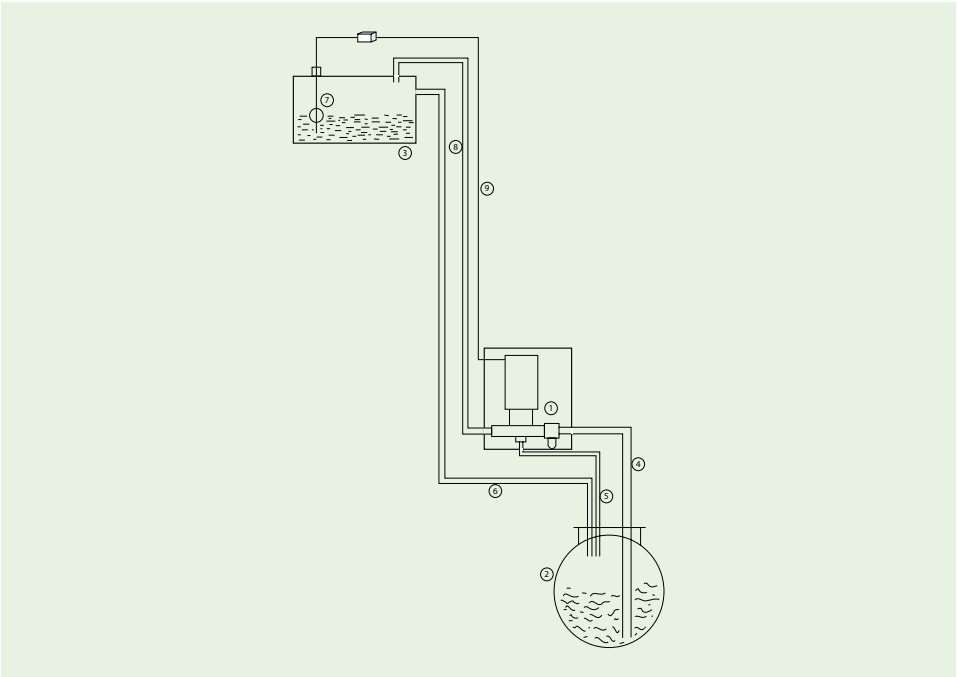


MODEL	FP 10		FP 23		FP 41		FP 90		FP 120		FP 240		FP 360		FP 570	
	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW
A	595	870	595	870	595	870	595	890	595	890	1.200	1.200	1.200	1.300	1.200	1.300
B	575	720	575	720	575	720	575	790	575	790	1.000	1.000	1.000	1.000	1.000	1.000
C	240	240	240	300	240	300	240	350	240	400	500	850	500	850	500	850
APPROX. WEIGHT. (kg)	14	31	16	35	16	35	24	68	28	79	100	200	130	230	195	300

B30 - B100

Suction diagram





1.- Pump Type FP
2.- Main tank
3.- Daily tank
4.- Suction pipe
5.- Overpressure pipe
6.- Overflow pipe
7.- SMMR 1 Level Switch
8.- Oil supply pipe
9.- Control line

List of parts in FP MODELS

One pump versions FP 10 - FP 570
Motor, flange, coupling, gear pump, overpressure valve, filter in suction side and vacuum meter, rigid pipe connections (steel), mounted in wall fixing frame until FP 120. Above FP 240, angle frame floor deck. Ready electrical assembly, switch, motor protection and connection for Level Switch. For easy connection we recommended SMMR1 level switch for your tank.

Two pumps versions FP 10 - FP 570 ZW
2 motors, flange, coupling, 2 gear pumps, overpressure valve, filter in suction side and vacuum meter, rigid pipe connections (steel), mounted in wall fixing frame until FP 120. Above FP 240, angle frame floor deck. Ready electrical assembly, electrical alternative switch, motor protection, and connection for Level Switch. For easy connection we recommend SMMR1 Level Switch for your tank.

Special Non-Ferrous metal free versions upon request.

For higher viscosities please consult for the suitable FP system specification.

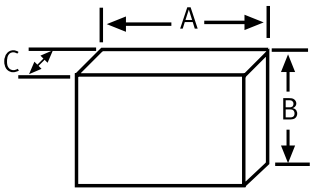
Accessories and adaptations

- Oil failure control system, to protect gears running with an empty tank.
- Free voltage relay output to control from centralised Building Management System, in kit 3, 4 or 6 signals (2-thermal, motors 1 or 2 ON, low pressure and Leak safety ON).
- GSM alarm system by SMS messages, or connection to modem.
- Adaptation of Pressure Group for high pressure, working conditions of up to 4,5 Kg/cm^2
- Leak collector trays with infrared detectors (standard in FP 240 and above).
- Modifications to adapt to specifically regulated environments (tropicalised equipment or ATEX.)
- Solenoid valves with flow limiters, to automate filling in supply tanks for electrical generators.
- Soundproof sheet cabinets with UNE-25 poly-pyramid foam and lock. Manufactured with no back and made-to-measure for each Pressure Group model.
- Assembly of Pressure Groups in IP-55 cabinets for outdoor installation with exterior suction and drive pipe couplings, electric connection presses and ventilation grills.
- Line pressure switch to signal low pressure.

OIL TRANSFER PRESSURE UNITS
RL ONE PUMP - RL ZW TWO PUMPS
Ring Transfer for B100

MODEL		RL 0	RL 1	RL 2	RL 3	RL 4	RL 5	RL 6	RL 7	RL 8	RL 9	RL 10
MAX.FLOW	l/h	100	260	460	900	1.400	2.100	3.400	5.300	7.500	10.500	12.000
SUPPLY FLOW	l/h	65	150	300	600	900	1.400	2.300	3.600	4.900	7.000	8.000
SUPPLY VOLTAGE	VOLTS	400*	400	400	400	400	400	400	400	400	400	400
MOTOR POWER	KW	0,25	0,25	0,25	0,55	0,55	2,2	3	3	4	4	4
	C.V.	1/3	1/3	1/3	3/4	3/4	3	4	4	5,5	5,5	5,5
MOTOR	r.p.m	1.400	1.400	1.400	1.400	1.400	1.400	1.400	1.400	1.400	1.400	1.400
CONNECTION TO THE HYDRAULIC CIRCUIT (Ø THREAD / Ø MM)	SUCTION	DN 20	DN 25	DN 25	DN 32	DN 32	DN 50	DN 50	DN 50	DN 40	DN 40	DN 65
	DRIVE	DN 20	DN 25	DN 25	DN 32	DN 32	DN 50	DN 50	DN 50	DN 40	DN 40	DN 50
	OVERPRESSURE	1/2" iG	3/4" iG	3/4" iG	1" iG	1" iG	DN 40	DN 40	DN 40	DN 40	DN 40	DN 40
SECURITY VALVE OPENS AT:	bar	5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8	5-8
MAX. SUCTION	m	5	5	5	5	5	5	5	5	5	5	5
MOTOR PROTECTION	IP	55	55	55	55	55	55	55	55	55	55	55

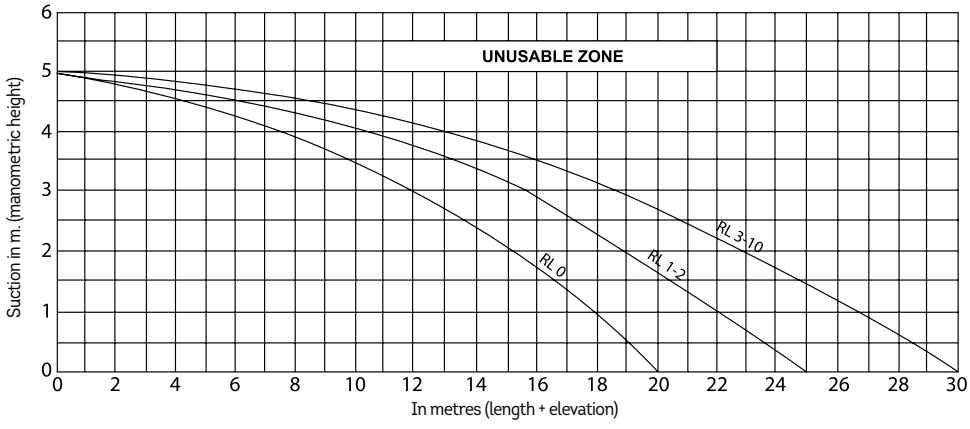
- (*) There is a 230 single-phase version (W)
- Threaded Flanges DIN 2566

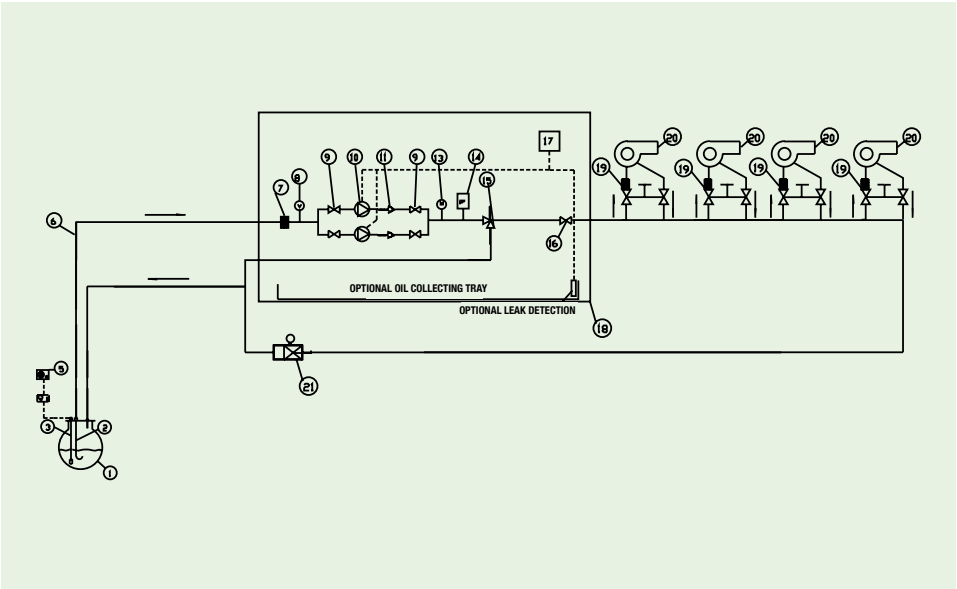


MODEL	RL 0		RL 1		RL 2		RL 3		RL 4		RL 5		RL 6		RL 7		RL 8		RL 9		RL 10	
	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW	N	ZW
A	595	870	595	870	595	870	870	890	870	890	1.200	1.300	1.200	1.300	1.200	1.300	1.200	1.300	1.200	1.300	1.200	1.300
B	575	720	575	720	575	720	720	790	720	790	1.000	1.000	1.000	1.000	1.000	1.000	1.100	1.100	1.100	1.100	1.100	1.100
C	240	300	240	300	240	300	300	350	300	400	500	850	500	850	500	850	500	850	500	850	500	850
APPROX. WEIGHT. (kg)	15	32	17	36	17	36	29	73	35	84	100	130	105	135	110	145	120	150	125	155	130	165

B30 - B100

Suction diagram





1. Main storage tank
2. Suction pipe
3. Level gauge probe
4. EDM-40 level gauge indicator
5. Overfill safety system
6. Intake pipe
7. Filter
8. Vacuum gauge
9. 4 Non-return valve
10. 2 Electric gear pumps
11. Pressure gauge
12. Low level pressure switch
13. Conducted escape safety valve
14. Quick shutoff valve
15. Electric control system with timer
16. Degassing bottle
17. Quick shutoff valve
18. Burner
19. Aluminium selfclean filter
20. Overflow valve

Contents list for RL Transfer Ring System One Pump Versions

Motor, flange, clutch, coupling, gear pump, filter, vacuumeter, pressure gange, pressure switch, security for pipe breaking or no fuel failure, motor protection with contactor, main switch, failure indicator, time delay pressure switch control for first runnings, overpressure security valve, flange or G inside tread connection to hydraulic circuit, free relay connections for failure signals out of the RL pump. All ready, mounted, fixed and electrically connected in wall plate. RL 5 and above in angle workframe.

Additionally, in Two Pumps versions:
Motor, flange, clutch, coupling, gear pump, Motor protection with contactor, alternating motor steering in time swap over. "IM" system to stop pumps when all burners are off is included (optional for RL-one pump).

Special Non-Ferrous metal free versions upon request.

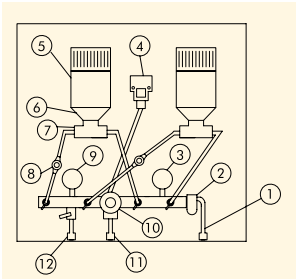
Reference mark:
To maintain security disposals from DIN norm, the pressure regulation valve must be placed in the return pipe to tank in proximity to the tank.

Accessories and adaptations

- IM system to stop pumps when all burners are off (optional for RL-N)
- Free voltage relay output to control from centralised Building Management System, in kit 3, 4 or 6 signals (2-thermal, motors 1 or 2 ON, low pressure and Leak safety ON).
- GSM alarm system by SMS messages, or connection to modem.
- Adaptation of Pressure Group for high pressure, working conditions of up to 6,5 Kg/cm^2
- Leak collector trays with infrared detectors (standard in RL-4 and above).
- Modifications to adapt to specifically regulated environments (tropicalised equipment or ATEX.)
- Solenoid valves with flow limiters, to automate filling in supply tanks for electrical generators.
- Soundproof sheet cabinets with UNE-25 poly-pyramid foam and lock. Manufactured with no back and made-to-measure for each Pressure Group model.
- Assembly of Pressure Groups in IP-55 cabinets for outdoor installation with exterior suction and drive pipe couplings, electric connection presses and ventilation grills.
- Line pressure switch to signal low pressure.
- Power supply failure safety system (timer deferred low pressure stop.)

RL METHANOL TRANSFER UNITS

MODEL METHANOL		RL 140 ZW	RL 260 ZW
MAX. FLOW	l/h	140	260
FEEDING FLOW	l/h	70	130
UNIT CONNECTIONS	Suction	1/2"	1/2"
	Pressure	1/2"	1/2"
	Return	1/2"	1/2"
SUPPLY VOLTAGE	Volt	230 / 400 tri-phase	230 / 400 tri-phase
MOTOR POWER	KW	0,25	0,25
	C.V.	1/3	1/3
OVERPRESSURE VALVE OPENS AT:	bar	6,5	6,5
DIMENSIONS	mm	800 x 800 x 300	800 x 800 x 300
WEIGHT	Kg.	65	74



Suction pipe (1
Filter (2
Vacuum gauge (3
Pressure switch-low (4
presure security
Triphase motors (5
Magnetic coupling (6
Gear pump (7
Anti return valve (8
Pressure gauge (9
Overpressure control valve (10
Overflow pipe (11
Pressure pipe (12

RL hydraulic driving unit for ring transfer system, in double pump version, special version for methanol, in safety steel cabinet

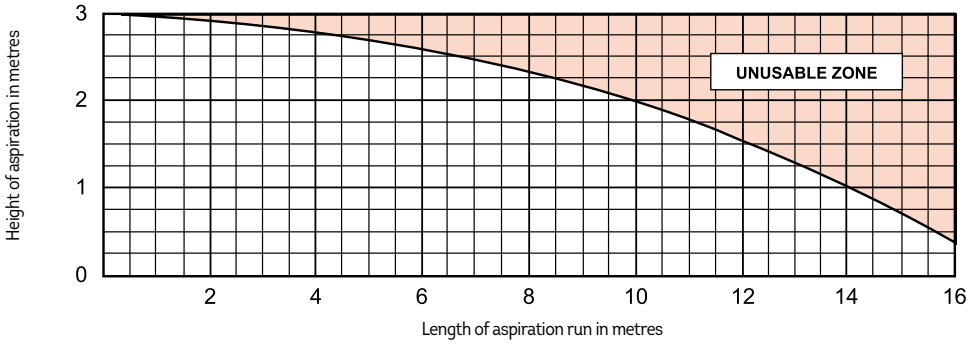
- 2 gear pumps with pressure relief valve and magnetic hermetic couplings, self aspirating, ATEX protection (EX 11 z GDcX(1))
- 2 triphase motors 230/400-Volt, ATEX protection (EX 11 2GEExe 11 T4 IP55(1))
- 2 anti return valves with mounted Cu-pipes
- 5 quick shutoff valves
- Filter with sintered bronze sieve and brass filter cup
- Vacuum gauge, manometer 6,5 bar
- Overpressure valve
- Pressure switch for protection against dry run or pipe failure controlled through relay, ATEX protection (EX 11 2 GD EEX de 11C T6 IP65(1))
- Connections (suction, pressure, overpressure): 1/2" inside thread
- Protection type: IP54
- All parts are assembled in a protection cabinet of approx.: 800 x 800 x 300 mm

ATEX certifications for the single components are supplied with the unit.

Indications: Electric connection wiring must be conducted with plastic NYKY cables with lead casing. The hydraulic unit is manufactured according to:
TRbF 100 and TRbF 110 EX protected installations:

VDE 170/171 corresponding to DIN 50014 as well as DIN 50020
VDE 165 corresponding to DIN 57165

Suction diagram



RL METHANOL TRANSFER UNITS

DIMENSIONS	mm	400 x 400 x 200
WEIGHT	Kg	10
PROTECTION RATE	IP	55
AUTOMATIC ALTERNATING SWITCH		Whit internal timer
Ø FOR CABLE GLAND	mm	20

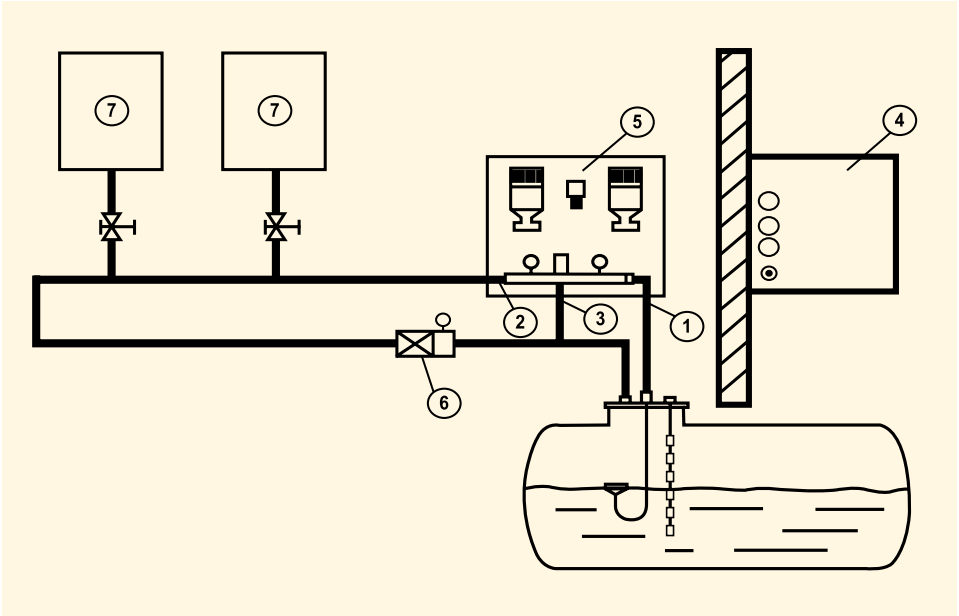
Electrical-control cabinet, scope of delivery

Automatic alternating switch with internal timer for double ring pump system, consisting of:

- 2 nos. motor protection
- Start-up button
- Operating lamp
- Malfunction warning lamp
- Alternative operation with pump 1 and pump 2 with timer, duration of run adjustable for each pump
- Time relay for bridging pressure drop
- Transistor relay
- Automatic breakdown switching over in case of malfunction (indication with warning light)
- Automatic pump alternation in case of an actuating motor protect switch
- Optional manual alternation from pump 1 to pump 2

Accesories and adaptations

- Pump control cabinet with built-in electrical changeover for twin motor pump units.
- Methanol pump system in steel cabinet for twin units RL 140 ZW me.
- Methanol pump system in steel cabinet for twin units RL 260 ZW me.
- Duplex filter (special version installed in the pump cabinet at the factory)
- Overflow valve RL 140 ZW me
- Overflow valve RL 260 ZW me



1) Suction line
2) Pressure line
3) Overpressure line
4) Electric control part Simka RL Methanol
5) Pump unit Simka RL Methanol
6) Pressure regulating valve type DRV
7) Appliance to supply

This is a product suitable for projects.
See all Inpro project references here

CAG + CONTROL CABINET
FOR MULTIPLE BACKUP POWER GENERATORS

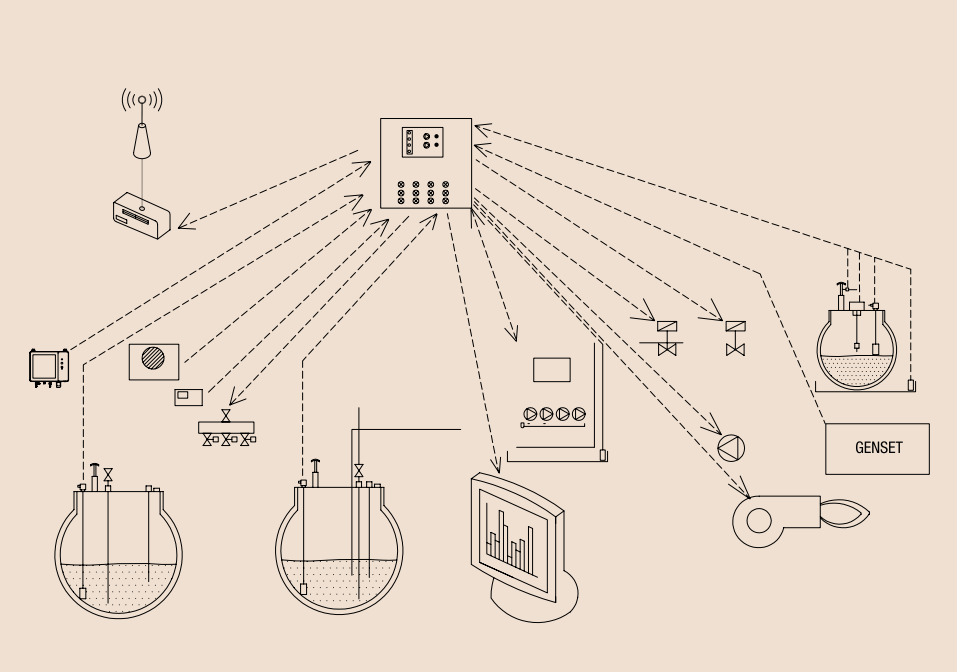
Dimensions (HxWxD in mm)	-
MODEL A	800x600x250
MODEL B	1000x800x250
MODEL C	600x500x200
PROTECTION RATING	IP 66
ENCLOSURE	Metal, Epoxy painted RAL7035
OPERATING TEMP.	0 to 40ºC (32 to 104ºF)
MOTOR PROTECTION	Motor Starter or VFD Drive
	Overload Protection
OUTPUT RELAYS	According to project requirements
INPUT RELAYS	According to project requirements
COMMUNICATION	Modbus
	Ethernet / TCP IP
	Others: LON / .....
POWER SUPPLY	230 V (I) 50 - 60 Hz
	400 V (III) 50 - 60 Hz
FOR OTHER VOLTAGES PLEASE CONSULT	-
APPROVAL	CE
STANDARDS	EN61131-2:2007
EMC DIRECTIVE (2004/108/EC)	-
LOW VOLTAGE DIRECTIVE (2006/95/EC)	-

Main technical characteristics:

The CAG+ control system can manage 1, 2 or more filling areas depending on the configuration selected by the designer, according to building's technical installations distribution and distances.

It consists of a touch screen 5.7" TFT color LCD interface with Mod Bus communication capability with BMS / SCADA or with TCP-IP communication protocol.

CAG + CONTROL CABINET
FOR MULTIPLE BACKUP POWER GENERATORS



Description

The INPRO CAG+ Control Cabinet for Multiple Backup Power Generators is the perfect complement to INPRO transfer systems for diesel fuel ATAM-GET.

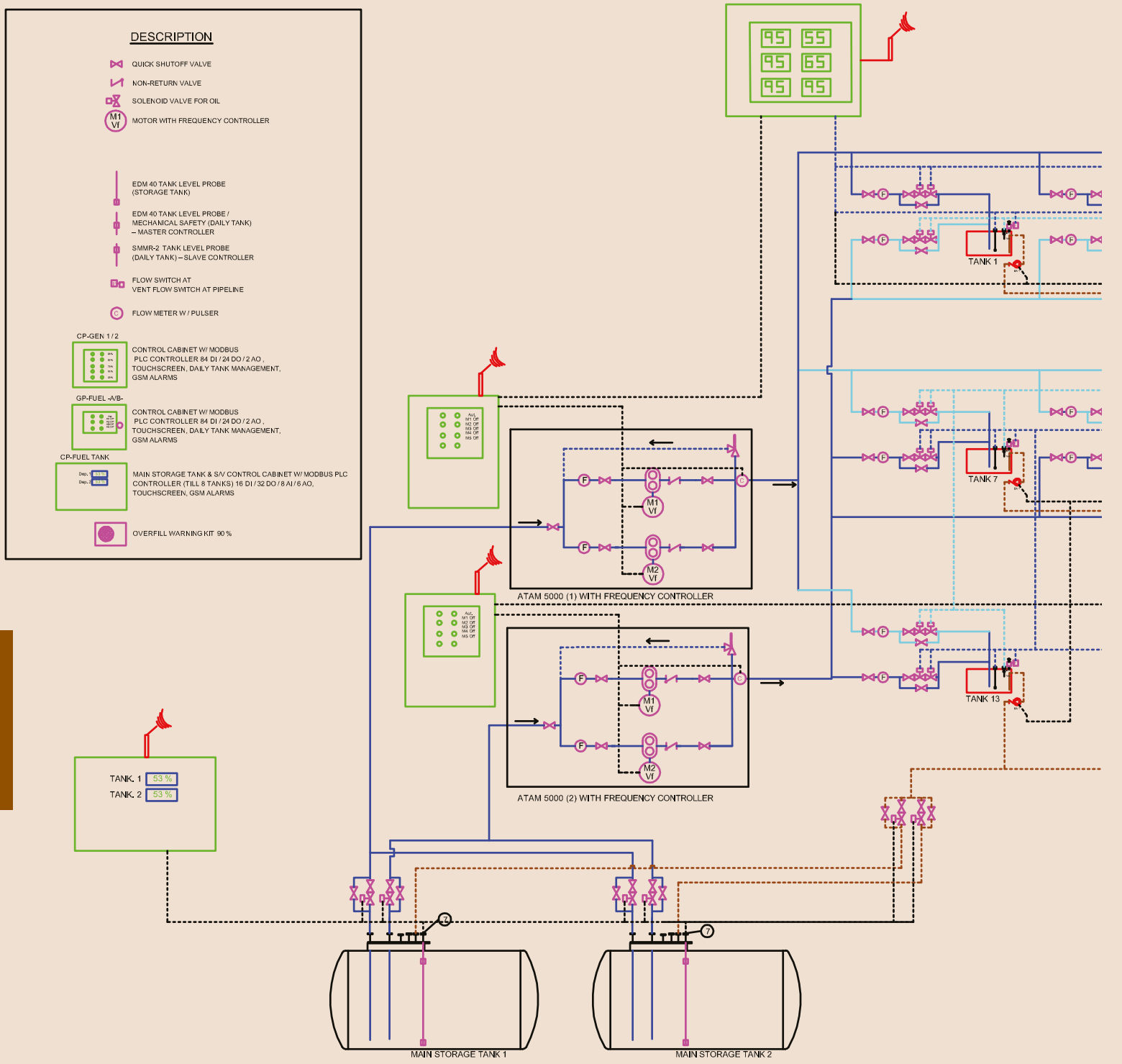
Its main component is a PLC controller with multiple analogue / digital inputs and outputs which can be defined for each installation, allowing the ideal safety and reliability operation at each specific installation such as:

- Storage Tank Level Control.
- Generator Tank Level Control.
- Duplex Pump s Control.
- Fuel Filtration / Polishing control.
- Motor Starter and Overload Protection for motors.
- Flow meter.
- Leak detection.
- Pressure drop sensors at filter.
- Integration with other controllers and BMS Systems Ethernet or Mod bus.

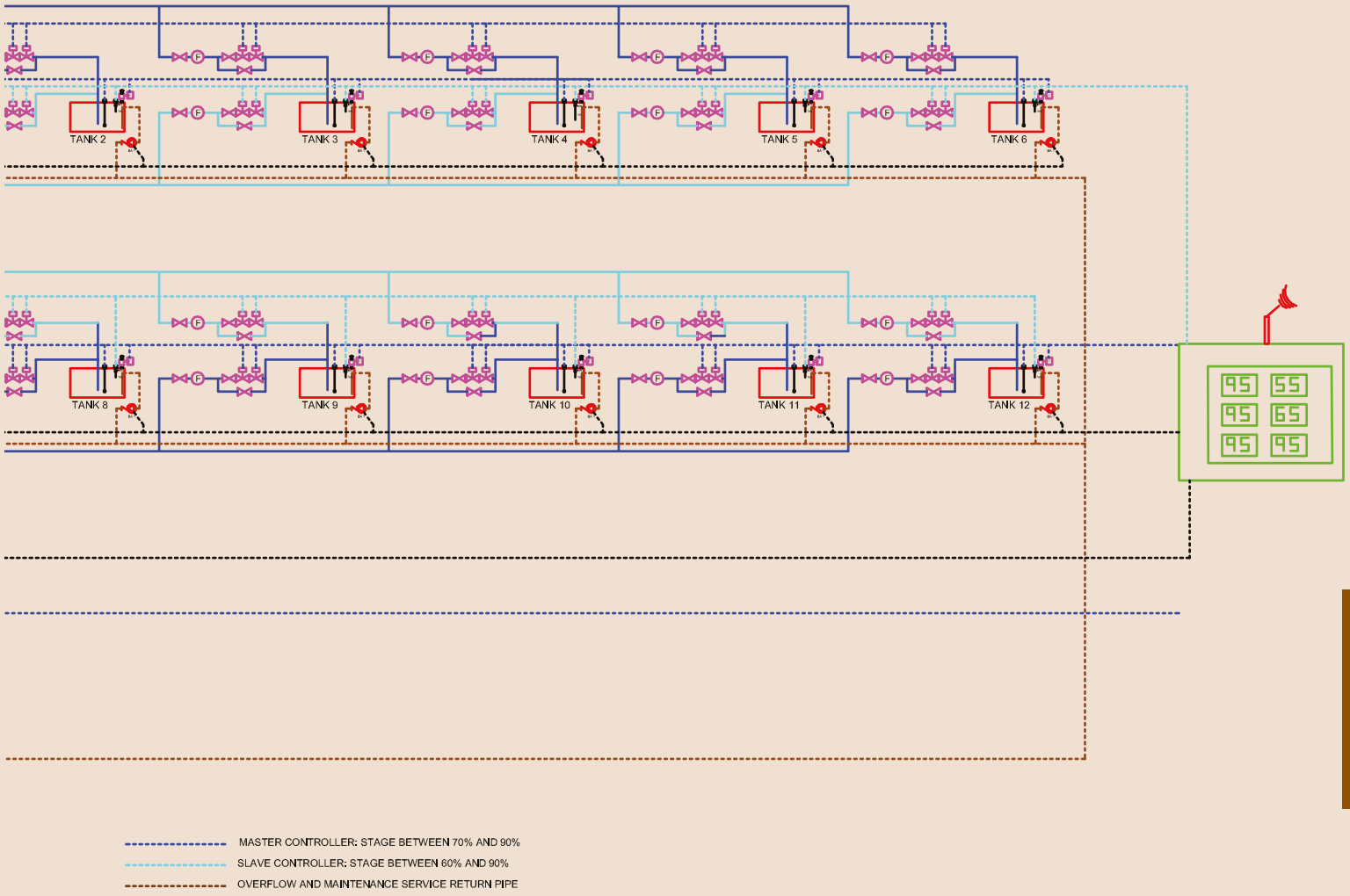
Other design optional features:

- Redundant relay principle to void automatic controller action at different redundant safety critical points at the installation.
- Dual Power Source Feed single-phase or 230/480 VAC - 3 Phase.
- Dual Control Power Transformer.
- Pump Motor Starters with Manual Disconnect and Overload Protection.
- Power Monitoring and Reporting for Control Circuit Breakers and Motor starters.

This is a product suitable for projects.
See all Inpro project references here


DESCRIPTION
QUICK SHUTOFF VALVE
NON-RETURN VALVE
SOLENOID VALVE FOR OIL
M1 Vf
MOTOR WITH FREQUENCY CONTROLLER
EDM 40 TANK LEVEL PROBE (STORAGE TANK)
EDM 40 TANK LEVEL PROBE / MECHANICAL SAFETY (DAILY TANK) – MASTER CONTROLLER
SMMR-2 TANK LEVEL PROBE (DAILY TANK) – SLAVE CONTROLLER
FLOW SWITCH AT VENT FLOW SWITCH AT PIPELINE
FLOW METER W / PULSER
CP-GEN 1 / 2
CONTROL CABINET W/ MODBUS PLC CONTROLLER 84 DI / 24 DO / 2 AO , TOUCHSCREEN, DAILY TANK MANAGEMENT, GSM ALARMS
GP-FUEL -A/B-
CONTROL CABINET W/ MODBUS PLC CONTROLLER 84 DI / 24 DO / 2 AO , TOUCHSCREEN, DAILY TANK MANAGEMENT, GSM ALARMS
CP-FUEL TANK
MAIN STORAGE TANK & S/V CONTROL CABINET W/ MODBUS PLC CONTROLLER (TILL 8 TANKS) 16 DI / 32 DO / 8 AI / 6 AO, TOUCHSCREEN, GSM ALARMS
OVERFILL WARNING KIT 90 %
95 55
95 65
95 95
TANK 1
TANK 7
TANK 13
M1 Vf
M2 Vf
ATAM 5000 (1) WITH FREQUENCY CONTROLLER
ATAM 5000 (2) WITH FREQUENCY CONTROLLER
TANK. 1 53 %
TANK. 2 53 %
MAIN STORAGE TANK 1
MAIN STORAGE TANK 2

POWER GENERATORS -DUTY AND STANDBY- IN TIER IV REDUNDANCY



MASTER CONTROLLER: STAGE BETWEEN 70% AND 90%

SLAVE CONTROLLER: STAGE BETWEEN 60% AND 90%

OVERFLOW AND MAINTENANCE SERVICE RETURN PIPE

CAG FUEL MONITORING PANEL FROM 1 (OR N) MAIN TANK(S) TO 1 (OR N) DAY TANK(S)

Voltage free contacts connectivity

CODE	Model (Nr of Storage Tanks / Day Tanks / Pumps)	Size (mm)	Weight (approx)	Free voltage contact to BMS	Analog out. to BMS
23070000010524	Fuel Monitoring Panel 1 ST / 0 DT	500x400x200	14	6	1
23070000010336	Fuel Monitoring Panel 1 ST / 1 DT	500x400x200	15	11	1
23070000010362	Fuel Monitoring Panel 1 ST / 2 DT	600x600x200	16	16	1
23070000010540	Fuel Monitoring Panel 1 ST / 3 DT	600x800x300	18	21	1
23070000010434	Fuel Monitoring Panel 1 ST / 4 DT	600x800x300	20	23	1
23070000010570	Fuel Monitoring Panel 1 ST / 5 DT	600x800x300	20	24	1
23070000010548	Fuel Monitoring Panel 1 ST / 6 DT	1000x1000x300	50	44	1
23070000010571	Fuel Monitoring Panel 1 ST / 8 DT	1000x1000x300	52	52	1
23070000010335	Fuel Monitoring Panel 2 ST / 1 DT	600x600x200	18	18	2
23070000010361	Fuel Monitoring Panel 2 ST / 2 DT	600x600x200	20	21	2
23070000010372	Fuel Monitoring Panel 2 ST / 3 DT	600x800x300	24	27	2
23070000010365	Fuel Monitoring Panel 2 ST / 4 DT	600x800x300	25	32	2
23070000010495	Fuel Monitoring Panel 2 ST / 6 DT	1000x1000x300	55	44	2
23070000010396	Fuel Monitoring Panel 2 ST / 6 DT	1000x1000x300	60	44	2
23070000010376	Fuel Monitoring Panel 2 ST / 7 DT	1000x1000x300	62	48	2
23070000010334	Fuel Monitoring Panel 3 ST / 1 DT	600x600x300	22	20	3
23070000010411	Fuel Monitoring Panel 3 ST / 2 DT	600x600x300	24	24	3
23070000010582	Fuel Monitoring Panel 3 ST / 3 DT	800x800x250	30	40	3
23070000010380	Fuel Monitoring Panel 3 ST / 4 DT	800x800x250	36	48	3
23070000010581	Fuel Monitoring Panel 3 ST / 5 DT	1000x1000x300	65	60	3
23070000010570	Fuel Monitoring Panel 4 ST / 3 DT	1000x1000x300	60	44	4
23070000010398	Fuel Monitoring Panel 4 ST / 6 DT	1000x1000x300	65	42	4
23070000010523	Fuel Monitoring Panel 8 ST / 0 DT	1000x1000x300			8
23070000010020	Control Module up to 2 Pumps				
23070000010060	Control Module up to 6 Pumps				

Type designation Key:
"3 ST / 4 DT" = 3 Main Storage Tanks, 4 Day Tanks

Description

The INPRO CAG Control Cabinet for Multiple Backup Power Generators is the perfect complement to INPRO transfer systems for diesel fuel ATAM-GET.
Its multiple analogue / digital inputs and outputs which can be defined for each installation, allowing the ideal safety and reliability operation at each specific installation such as:

- Storage Tank Level Control (EDM 4-digits display)
- Generator Tank Level control (SR level)switch lamps and contacts)
- Duplex Pump/ s Control (optional)
- Fuel filtration / Polishing control (optional)
- Motor Starter and Overload Protection for motors (optional)
- Flow meter (optional)
- Leak detection (optional)
- Presure drop sensors at filtrer (optional)
- Integration with other controllers and BMS Systems through dry relay outputs and analog contacts to the BMS

Other design optional features:

- Pump Motor Starters with Manual Dosconnect and Overload Protection
- Power Monitoring and Reporting for Control Circuit Breakers and Motor starters

CAG + FUEL MONITORING PANEL FROM 1 (OR N) MAIN TANK(S) TO 1 (OR N) DAY TANK(S)

PLC and touchscreen, with Modbus connectivity

CODE	Model (Nr of Storage Tanks / Day Tanks / Pumps)	Size (mm)	Weight (approx)	Free voltage contacts	Digital I/O. to BMS	Analog I/O. to BMS
23070000010429	Fuel Monitoring Panel w. PLC 3,5" 1 ST / 1 DT	600x600x300	25	9	101/60	21/20
23070000010413	Fuel Monitoring Panel w. PLC 3,5" 1 ST / 1 DT	600x600x300	25	16	101/140	21/20
23070000010384	Fuel Monitoring Panel w. PLC 3,5" 0 ST / 3 DT	600x600x300	25	20	161/100	21/20
23070000010341	Fuel Monitoring Panel w. PLC 5,7" 1 ST / 1 DT/ 2 P	600x600x300	28	10	261/140	21/20
23070000010340	Fuel Monitoring Panel w. PLC 5,7" 1 ST / 1 DT/ 2 P / 1 R.P	600x600x300	28	14	261/120	21/20
23070000010351	Fuel Monitoring Panel w. PLC 5,7" 1 ST / 2 DT/ 2 P	600x600x300	28	16	261/120	21/20
23070000010387	Fuel Monitoring Panel w. PLC 5,7" 1 ST / 2 DT/ 2 P / 1 R.P	800x800x300	28	24	261/120	21/20
23070000010384	Fuel Monitoring Panel w. PLC 3,5" 1 ST / 3 DT	600x600x300	30	20	181/8	21/20
23070000010383	Fuel Monitoring Panel w. PLC 3,5" 1 ST / 5 DT	600x600x300	30	24	341/160	21/20
23070000010415	Fuel Monitoring Panel w. PLC 5,7" 6 ST / 0 DT	400x600x300	40	4	181/80	61/40
23070000010388	Fuel Monitoring Panel w. PLC 5,7" 2 ST / 1 DT/ 2 P	600x600x300	45	20	241/140	21/20
23070000010353	Fuel Monitoring Panel w. PLC 5,7" 2 ST / 2 DT	600x800x300	45	16	281/140	21/20
23070000010522	Fuel Monitoring Panel w. PLC 5,7" 2 ST / 2 DT	600x800x300	45	24	281/140	21/20
23070000010407	Fuel Monitoring Panel w. PLC 5,7" 3 ST / 12 DT	600x800x300	50	28	381/180	21/20
23070000010517	Fuel Monitoring Panel w. PLC 5,7" 3 ST / 2 DT	600x800x300	50	16	281/140	21/20
23070000010518	Fuel Monitoring Panel w. PLC 5,7" 3 ST / 4 DT	800x600x300	50	32	281/140	21/20
23070000010415	Fuel Monitoring Panel w. PLC 5,7" 6 ST / 0 DT	400x600x300	40	4	181/80	61/40
23070000010516	Fuel Monitoring Panel w. PLC 5,7" 8 ST / 8 DT	800x800x250	50	56	281/140	21/20
03200900000020	Control Module up to 2 Pumps					
03200900000060	Control Module up to 6 Pumps					

Type designation Key:
"1 ST / 1 DT/ 2 P / 1 R.P" = 1 Main Storage Tank, 1 Day Tank, 2 Pumps , 1 Return Pump

Description

The INPRO CAG + Control Cabinet for Multiple Backup Power Generators is the perfect complement to INPRO transfer systems for diesel fuel ATAM-GET.

Its main component is a PLC controller with 3,5" or 5,7" color LCD touchscreen HMI, with multiple analogue / digital inputs and outputs which can be defined for each installation, allowing the ideal safety and reliability operation at each specific installation such as:

- Storage Tank Level Control
- Generator Tank Level Control
- Duplex Pump s Control
- Fuel Filtration / Polishing control
- Motor Starter and Overload Protection for motors.
- Flow meter
- Leak detection
- Pressure drop sensors at filter
- Integration with other controllers and BMS Systems Ethernet or Modbus
- ...

Other design optional features:

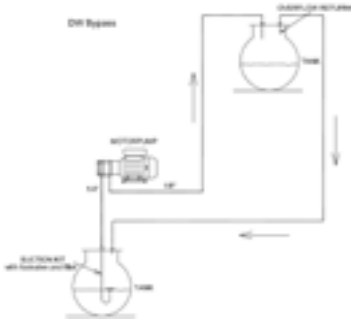
- Redundant relay principle to void automatic controller action at different redundant safety critical points at the installation.
- Dual Power Source Feed single-phase or 230/480 VAC – 3 Phase
- Dual Control Power Transformer
- Pump Motor Starters with Manual Disconnect and Overload Protection
- Power Monitoring and Reporting for Control Circuit Breakers and Motor starters

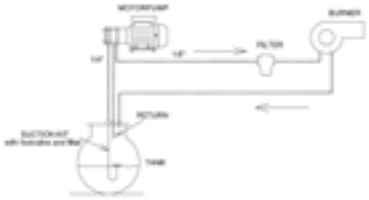
MONOBLOCK MOTORPUMPS DW AND BMF

MODEL	MAX. FLOW AT 2 bar	SUCTION	PRESSURE	RETURN	BYPASS OPEN AT	WEIGHT KG	CODE
DW 60 BYPASS	60 L/H	G 1/4"	G 1/8"	-	4 BAR	4,65	33000000006020
DW 60 RINGS	60 L/H	G 1/4"	G 1/8"	G 1/4"	-	4,65	33000000006021
DW 120 BYPASS	120 L/H	G 1/4"	G 1/8"	-	4 BAR	5	33000000011220
DW 120 RINGS	120 L/H	G 1/4"	G 1/8"	G 1/4"	-	5	33000000011221

- Power Supply: 230 Vac Single phase 50 Hz
- Consumption: 150 W
- Size: 310 x 200 x 210 mm
- Max. pressure: 10 bar

MODEL	MAX. FLOW AT 2 bar	MAX. D	ø	MOTOR kW	WEIGHT KG	CODE
F5	300	5	1/2"	0,26	9	33000002000005
F5	300	10	1/2"	0,26	9	33000002000006
F10	600	5	3/4"	0,37	10,5	33000002000010
F10	600	10	3/4"	0,37	10,5	330000020000X11
F15	1000	5	3/4"	0,55	11	33000002000015
F15	1000	10	3/4"	0,55	11	33000002000016
F25	1500	5	3/4"	0,75	14,5	33000002000025
F25	1500	10	1"	0,75	14,5	33000002000026
F40	2500	5	1"	1,1	16	33000002000040
F40	2500	10	1"	1,1	16	33000002000041
F50	3000	5	1"	1,5	18,5	33000002000050
F50	3000	10	1"	1,5	18,5	33000002000051
F70	4200	5	1"	2	24,5	33000002000070
F70	4200	10	1"	2	24,5	33000002000071





Motorpump gear type for fuel transfer

- Self-priming, special treated helical gears for the pump to be silent.
- Casting body (shell moulding).
- Great robustness Tri-phase motor.
- Direction of rotation, can be changed either counterclockwise or clockwise with inverter.
- Bench cast iron and suitable for standard motors.
- Fully balanced, robust and silent, not requiring any maintenance.
- Its powerful engine avoid problems with low temperatures fuel startups.

	MOTOR PROT CLASS.	FLOW	POWER SUPPLY	CODE
1/4 CV	IP 55	120 l/h	3 x 400 Vca	33000000014120
1/3 CV	IP 55	250 l/h	3 x 400 Vca	33000000013250
1/2 CV	IP 55	500 l/h	3 x 400 Vca	33000000012500
1 CV	IP 55	1.700 l/h	3 x 400 Vca	33000000011700
2 CV	IP 55	1.700 l/h	3 x 400 Vca	33000000021700
3 CV	IP 55	3.500 l/h	3 x 400 Vca	33000000033500

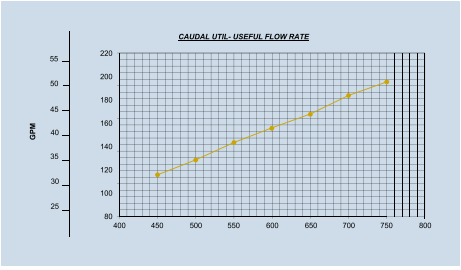
MOTORPUMPS MOUNTED IN BASEPLATE

MODEL	MAX.FLOW l/min	SUCTION	PRESSURE	MOTOR	BYPASS bar	WEIGHT Kg	CODE
BDP-200	200	1 1/2"	1 1/2"	IP-55 230/400VCA 50Hz	3,5	85,5	010101
BDP-200 ATEX	200	1 1/2"	1 1/2"	ATEX EExd IIBT4 230/400VCA 50Hz	3,5	85,5	010100
BDP-300	300	2 1/2"	2 1/2"	IP-55 230/400VCA 50Hz	3,5	125	010121
BDP-300 ATEX	300	2 1/2"	2 1/2"	ATEX EExd IIBT4 230/400VCA 50Hz	3,5	125	010120
BDP-500	500	2 1/2"	2 1/2"	IP-55 230/400VCA 50Hz	3,5	149	010110
BDP-500 ATEX	500	2 1/2"	2 1/2"	ATEX EExd IIBT4 230/400VCA 50Hz	3,5	149	010110
BDP-1000	1000	3"	3"	IP-55 230/400VCA 50Hz	3,5	227	010131
BDP-1000 ATEX	1000	3"	3"	ATEX EExd IIBT4 230/400VCA 50Hz	3,5	227	010130
BDP-1200	1200	2 1/2"	2 1/2"	IP-55 230/400VCA 50Hz	3,5	250	0101800000
BDP-1200 ATEX	1200	2 1/2"	2 1/2"	ATEX EExd IIBT4 230/400VCA 50Hz	3,5	250	0101800000 ATEX

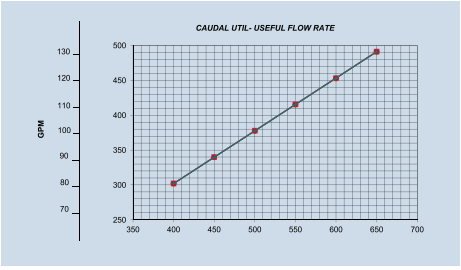
- Bedplate vane pumps of high flow, self-suction, positive displacement, constant flow, silent and heavy-duty.
- The transfer is quick, uniform and silent.
- The pump has built-in bypass valve.

It is specially intended for the transfer of high volumes, S-1 service, continuous for fuel tank charging and discharging, storage of fuel, hydrocarbon, petrol, diesel, kerosene and another non-corrosive liquid and without solid particles in suspension.

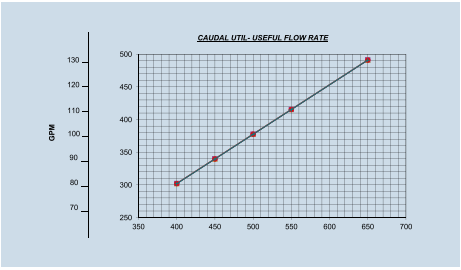
BDP 200



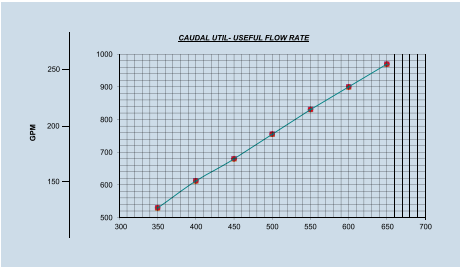
BDP 300



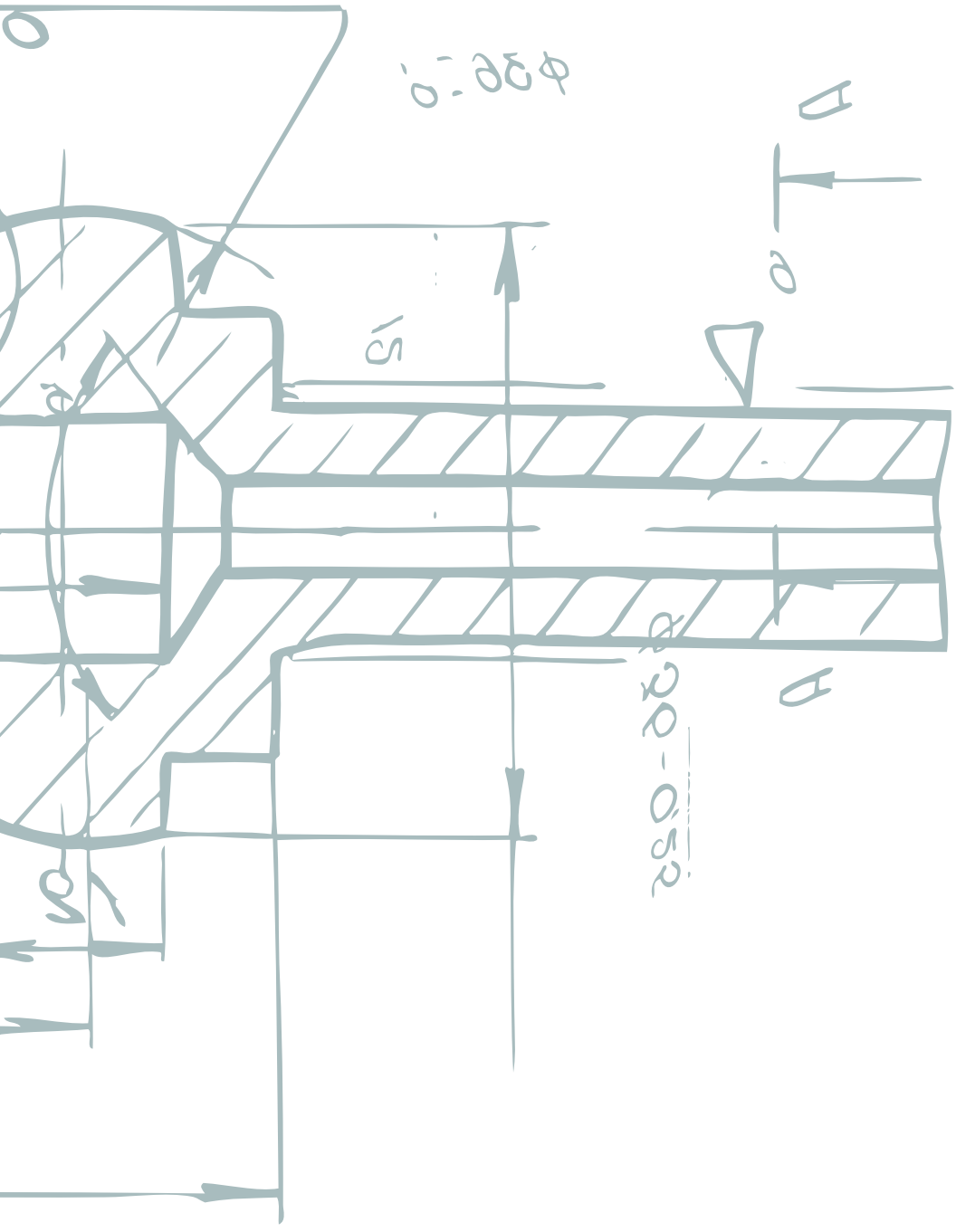
BDP 500



BDP 1000



AUTOMATIC FUEL POLISHING SYSTEMS. SAFA RANGE

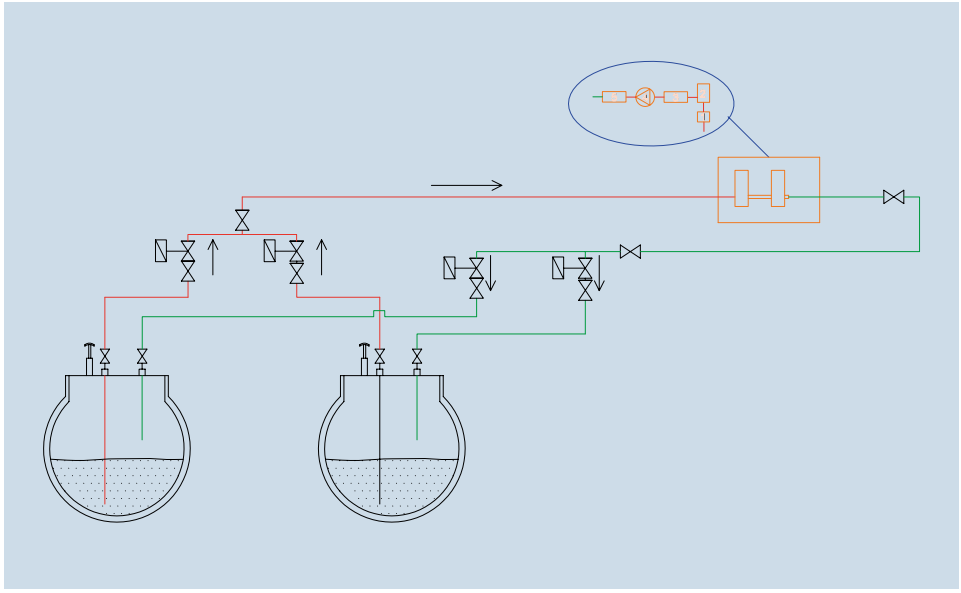


SAFA
Automatic Fuel Conditioning System for Multiple and Large Fuel Storage Tanks

Filtering System Basic Diagram

The SAFA automatic fuel conditioning system for particle filtration, water removal, fuel homogenization and oxygenation through its programmed recirculation protocol, prevents the proliferation of bacteria, molds and yeasts that are liable to damage the installation.

- The SAFA is a bespoke system, able to prevent fuel degradation in up to 6 storage tanks, from 1.000 liters till 100.000 each.
- Configured and equipped with all the necessary elements to control filtering protocol of existing tanks, it is designed in a scalable technique to allow future extensions of the fuel storage park.
- All manoeuvres and alarms are locally displayed at the LCD touchscreen, and remotely by mod-bus.



Filtration stages:
1) 0,1 mm particle filter
2) Water decanter
3) Fuel conditioner for microbial growth prevention
4) Fuel circulation pump (preventing degradation)
5) Fuel meter with pulser transmitter

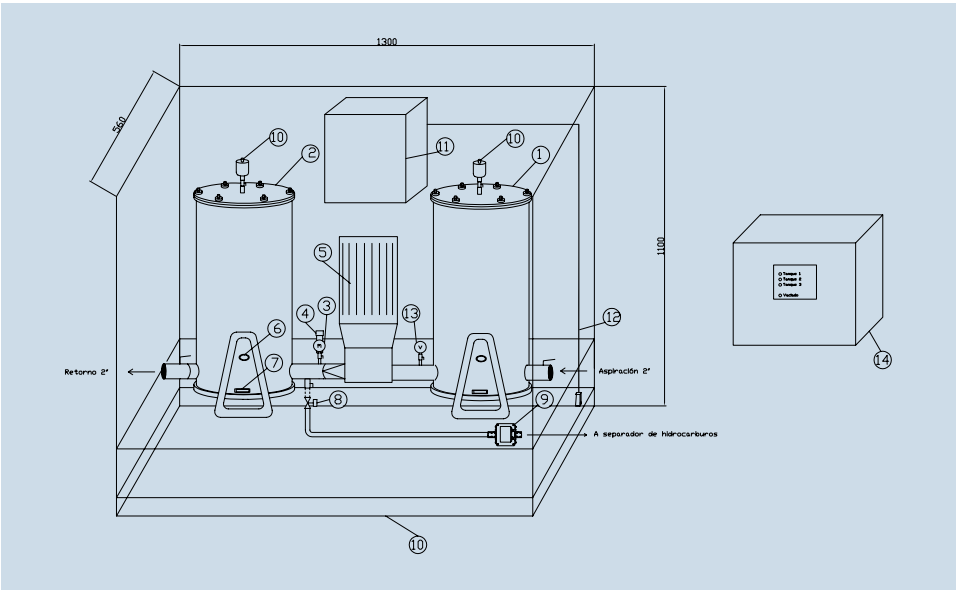
Accessories and adaptations

- Circulates and prevents fuel degradation inside storage tanks.
- Fuel is passed through a fuel conditioner to prevent microbial growth.
- The fuel is automatically distributed for a adjustable number of periods programmed by the operator. We recommend to ensure that the contents of the tank are recirculated at a rate of 1.5 times tank's capacity every 28 days.
- If water is detected in the decanting filter in the unit, it triggers an alarm and pump starts an automatic water drain process.
- The system is powered by 400 Vac triphase power supply (a version on 230 V are available under request) and comprises a double stage particle and water decanting filter, fuel conditioner, flow detector, flow failure display, timer.

This is a product suitable for projects.
See all Inpro project references here

System Description

1) 1. 1st Filter 50 microns
2) 2. 2nd Filter 15 microns
3) Pressure gauge glycerine
4) Analog Pressure switch 0-10 bar
5) Motorpump 1.500 l / h
6) Water viewer (electrode type)
7) Dirty filter warning
8) Water draining solenoid valve
9) Water draining pump
10) Automatic air vent
11) Junction box
12) Leak detector
13) Vacuum gauge
14) Control cabinet (600x600x200)
15) Flow meter with pulser
16) Fuel Conditioner



Automatic Fuel Polisher and Drain System

- 1.500 l / h motorpump III / 400 3/4 CV / 1,2A.
- Pressure sensor- linear.
- Vacuum gauge meter.
- Manometer glycerine 0-10 bar.
- Sampling cap.
- 2 Aluminium Microfilters FG-300 / 15-25
- 1 50 µm particle filter (micron).
- 1 second stage filter15 µm (micron) water absorbent filtering paper.
- Water presence gauge.
- Differential pressure gauge, as clogged filter indicator.
- Sensors for water detection to start automatic water drainage.
- Solenoid-valve N/C 3/8 "drain line.
- Pump solenoid type 12 Lts / h drain line.
- Manual drain ball valves.
- Leak collecting tray, in metal, epoxy painted.
- Infrared leak detector.
- Metal cabinet in metal, epoxy painted.
- Sizes may change according special bespoke requirements.
- Maximum work pressure: 6 bar.
- Maximum system pressure: 10 bar.

LCD Touchcreen Display and Control Cabinet

- Software programmed PLC controller with touch screen.
- Analog and digital inputs and outputs (any required).
- Mod-Bus communication.
- Motor starters and thermal protection for motor pumps.
- 24Vdc power supply transformer.
- Connection terminals.
- System ready mounted with all bespoke necessary equipment, factory tested and ready to set up.
- Control cabinet IP66, in metal, epoxy painted with PLC controller display mounted at front panel.

FUEL POLISHING:
Automatic Operation Conditioning Protocol Description

Filter protocol

The status of the SAFA filter system is displayed on the PLC screen. In this screen you can select and modify the working modes for SAFA, see alarms and cancel the system.

Automatic filtering mode

When the automatic filtering mode is selected, the days from Monday to Sunday and the filtration start time can be selected. The total filtering time per tank, can be adjusted up to 59 minutes per tank. At the scheduled time of each day selected, the suction and return solenoid valves of the line of the first tank will be opened. Once the filtration time has elapsed, continue with the next tank, opening and closing the corresponding solenoid valves. So with all the tanks the filtration is concluded. The protocol can be manually stopped at any time by pressing "Off" closing the solenoids and the system shutdown. Program is suspended.

Manual filtering mode

When the manual filtering mode is selected, the tank to be filtered can be manually selected through the PLC screen. By pressing "SAFA Start" the filtering system opens return and return electrovalves that give access to the preferred tank, and it will remain in operation for unlimited time. The protocol can be stopped manually at any time by pressing "SAFA Start" again, closing the line solenoid valves.

Automatic drain protocol

By means of the water detectors installed at each of the filters, the automatic drainage protocol will be activated towards the water decanter. Any filtering protocol is locked. The 3/8"NC solenoid valve of the drain is opened and the solenoid pump is activated for 30" The filtering system keeps blocked for the next 10 minutes. Each of the filters has a water presence gauge on the front of the filter housing. In the filters there is a differential pressure drop gauge, as clogged filter indicator.

Draining filters and cleaning or replacing filter cartridges

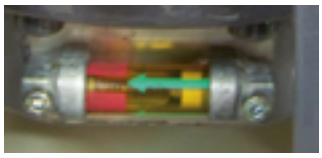
In order to empty the filters for cleaning or replacing the filter cartridges, the system must first be set to "Off", the main suction and pressure valves closed and the plug from the three-way drain valves located at the back of filters removed. A container should be placed to avoid that the drop of fuel to the collecting tray causes leak detection alarms, and open the drain valve until the total emptying of the filter. Remove the screws on the top cover, and replace the filter insert cartridge.

Security

The filtering protocol will be affected in the following cases:

1. If, for any reason, any of the pump supply to tank is started, filtration will be cancelled for ten minutes, prioritising the fuel supply to tanks.
   If the system is operating manually. The filtering process is stopped, switching to automatic mode.
   After that ten minutes of filtering cancellation, the system will resume the filtering protocol, only if it still remains within the programmed cycle time frame programmed (up to 59 minutes), as long as the start of fill pumps had ended.
2. If the pressure increases to 3 bars, it stops until descending to 2 bars. A local alarm is displayed at the screen and remotely by mod-bus.
3. The system detects a leak at its oil collecting tray infrared sensor. In this case, the system will be blocked and local alarm is displayed at the screen and remotely by mod-bus.
4. --In low level alarm at in main tanks or manhole leak detected.

The system, under automatic mode, will ignore any tank in alarm during the run cycle, until that alarm is solved. Under manual mode, it will also not allow the tank in alarm condition to start.



MINI SAFA
Automatic Fuel Conditioning System for Single and Large Fuel Storage Tanks

MiniSAFA with optional water drain system.

For larger capacity installations and fuel parks the SAFA filtering system guarantees the prevention.
For lower flow rate generators MiniSAFA and MicroSAFA are recommended.

TECHNICAL CHARACTERISTICS	
Dimensions	500x500x650 mm
Power supply	230 /110 Vac
Consumption	4 A / 8A Max.
Maximum Flow	50 l/min
Nominal Flow	40 l/min
Product codes	21110000902305: 230 V 50 Hz model
	21110000901105: 110 V 60 Hz model
	21110000902316: 230/50 Hz model, with automatic water drain pump
	211100000901106: 110/60 Hz model, with automatic water drain pump
Recommended for tanks up to 50.000 Lts accumulation.	

Automatic water separation system in diesel tanks

The automatic filtering system for the separation of water in diesel tanks eliminates the water produced by condensation, oxygenates, homogenizes the fuel thanks to its recirculation and prevents the proliferation of bacteria, molds and yeast that are so damaging for the installation.

Why is it important to install The MiniSAFA in my fuel tank?

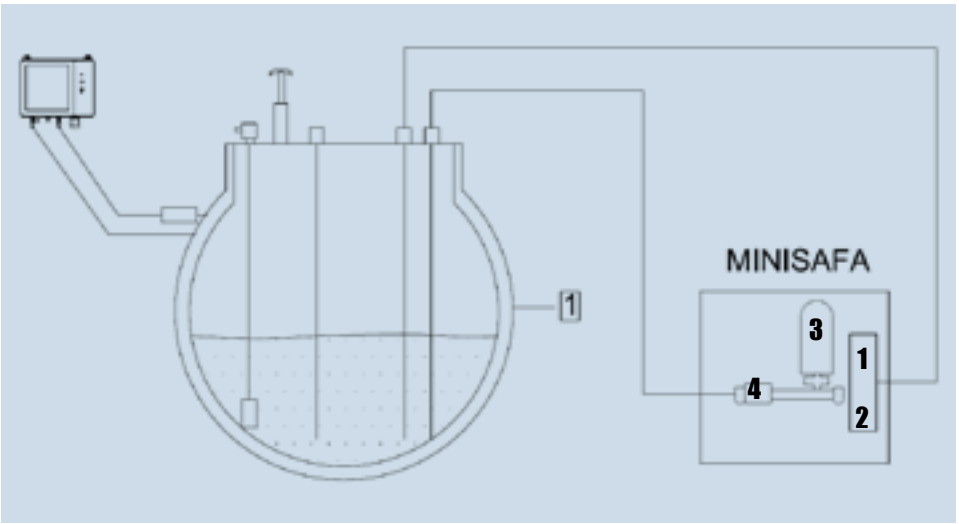
Microbial contamination in fuel storage tanks is becoming a major problem.
Frequently, the first symptoms are detected in the installation filters when they become clogged, causing extra maintenance charges.

These bacteria proliferate by the accumulation of water in the tanks, quickly forming large colonies that clog the filters, causes irregular wear in pumps and affects to the engine cylinders.

In addition to a considerable increase in consumption by reducing performance.

The MiniSAFA filtering system is the ideal solution to all these problems in the medium-sized installations, especially in main tanks, due to the poor fuel rotation.
The system eliminates solid particles and water from the tanks by means of a decanting filter.
Additionally, it is fitted with a linear module that induces lethargy in the bacteria thus limiting their capacity to proliferate.

Filtration stages:
1) 0,1 mm particle filter
2) Water decanter
3) Fuel conditioner for microbial growth prevention
4) Fuel circulation pump (preventing degradation)

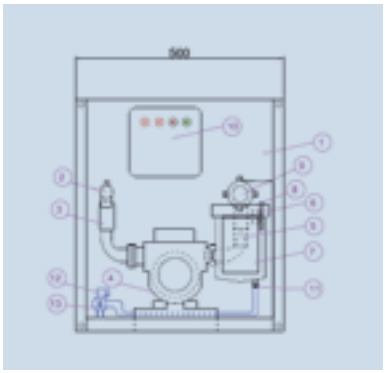


MINI SAFA
Automatic Fuel Conditioning System for Single and Large Fuel Storage Tanks

How does MiniSAFA operate?

- **It circulates** and prevents fuel degradation inside daily-supply tanks.
- Fuel is passed through a fuel conditioner to prevent microbial growth.
- The fuel is **automatically distributed** for a predetermined number of periods programmed to ensure that the contents of the tank are recirculated at a rate of 1.5 times tank's capacity every 28 days.
- Mod. Without drainage: when water is detected in the decanting filter, the equipment stops, it triggers an alarm and a malfunction warning light comes on (water). To rearm, remove the water and act on the reset button if necessary. (It will not start until the corresponding cycle or acting manually)
- Mod. With drainage (*): when water is detected in the decanting filter the equipment stops, it triggers an alarm and a malfunction warning light comes on (water), opens solenoid valve (12) and starts the drain pump during (13) 30 seconds in order to take out the existing water. (It will not start until the corresponding cycle or acting manually
- **When water is detected in the decanting filter, the equipment stops, it triggers an alarm** and a malfunction warning light comes on (water).
- The system is powered by 230 Vac or other voltages on demand and comprises a solid filter, water decanter, fuel conditioner, flow detector, flow failure display, timer.
- The complete unit is weatherproof (IP-55 protection).

N	Description	Inpro Code
1	Structure with Tray	01110000022666
2	Particle filter 1" BSP (Aspiration)	01110005010005
3	Conditioner 1"	05040000130004
4	Motor Pump Iron 50 230 Vac	06060007046370
5	Non-return Valve 1"	01070000001000
6	Flow detector	01150000010001
7	Decanter filter (5 um)	01110009011210
8	Electrodes	01120000020600
9	Return 1" BSP	-
10	Control Box	-
	NFC Timer	02010000932290
	Contactor	02030000001110
11	Purge / Automatic Discharge (*)	-
12	Solenoid discharge (*)	-
13	Pump water - discharge piston	-



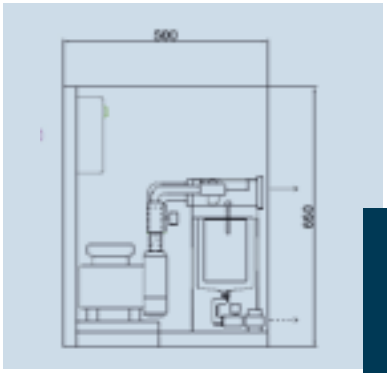
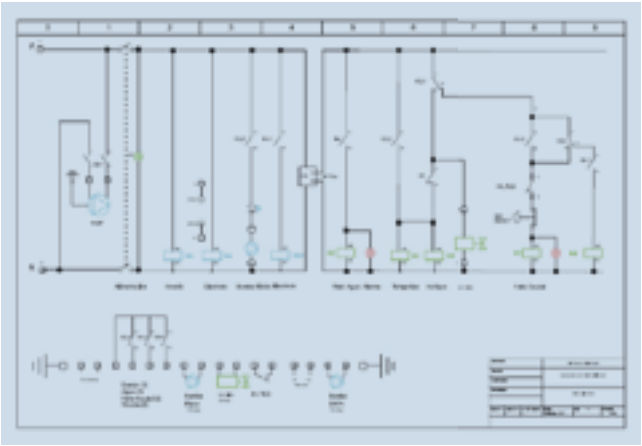


Diagram and electrical connections



MICRO SAFA
Automatic Fuel Conditioning System for Day Tanks up to 2000 l.

TECHNICAL CHARACTERISTICS	
Dimensions	300 x 230 x 160 mm
Power supply	230 Vac
Consumption	100 mA
Maximum flow rate	20 L/h
Suction/Drive	1/4" - 1/4"
Drain	1/4"
Recommended for storage tanks of up to 1,000 L.	

Automatic fuel conditioning system for daily tanks up to 1.000 liters volume

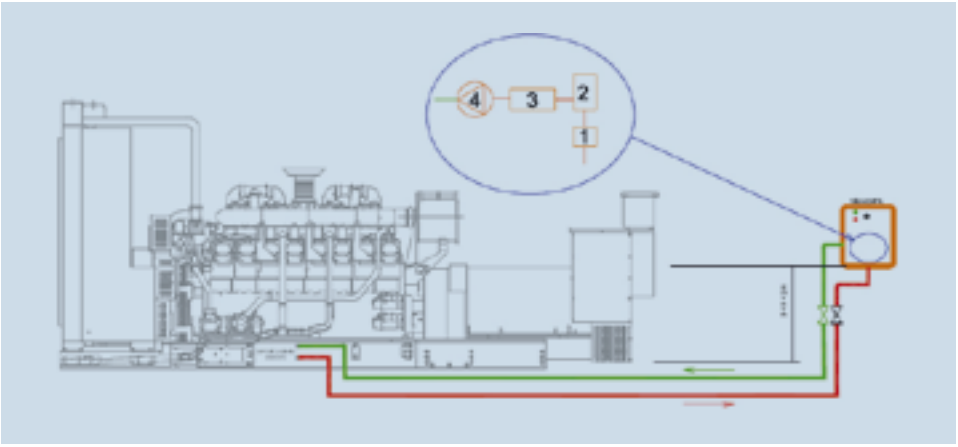
The MicroSAFA automatic fuel conditioning system for particle filtration, water removal, fuel homogenization and oxygenation through its programmed recirculation protocol, prevents the proliferation of bacteria, molds and yeasts that are liable to damage the installation.

Why is it important to install MicroSAFA in my fuel tank?

As per current regulations trends in allowance limits, the diesel can be mixed with till 7% of biodiesel. This fact modifies the fuel's chemical structure and causes a significant increase in condensation within the tank. The presence of water combined with certain temperature conditions create a perfect medium for the bacteria to grow, reproduce and create damages at the installation.

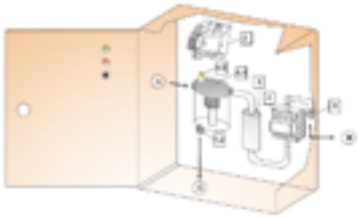
The Microsafa filtering system is the ideal solution to all these problems in small installations, especially in emergency generators with poor fuel rotation. The system eliminates solid particulate and water from the tanks by means of a decanting filter. Additionally, it is fitted with a linear module that induces lethargy in the bacteria thus limiting their capacity to proliferate.

Filtration stages:
1) 0,1 mm particle filter
2) Water decanter
3) Fuel conditioner for microbial growth prevention
4) Fuel circulation pump (preventing degradation)



MICRO SAFA

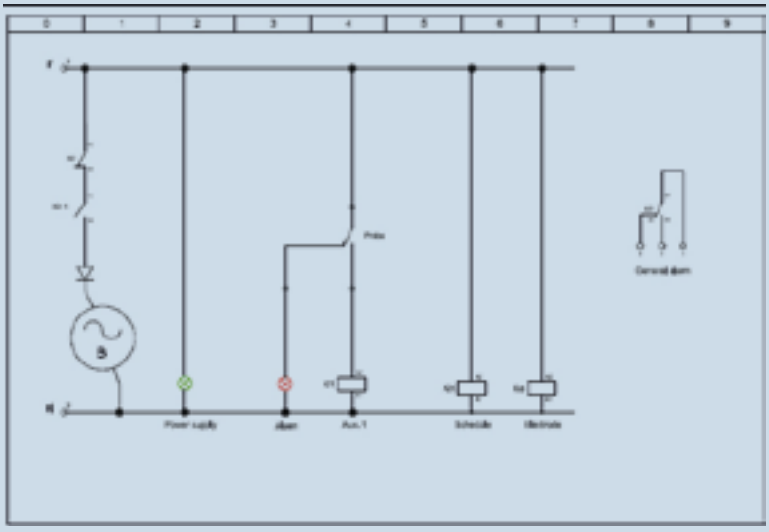
SCOPE OF CONTENTS		
N	Description	Inpro-Code
1.1	Oil filter and water separator	01110000022032
2	MicroSAFA PCB controller	23110000000410
2.1	Timer switch controller (optional alternative)	02010000932290
2.2	Aux. relay contact	02010000001490
2.3	Electrode relay	02050000001000
3	Fuel conditioner	23120000314148
4	Solenoid pump 15 l/h	01000000003660
5	Standard plastic protecitve enclosure	00180000010005
6	Optional IP 66 cabinet	02060004030201

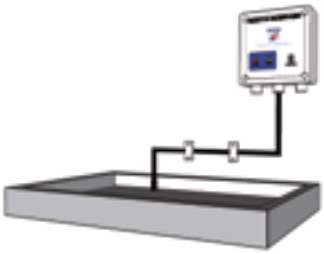


How does Micro SAFA operate?

- **Circulates** and prevents fuel degradation inside daily-supply tanks.
- Fuel is passed through a fuel conditioner to **prevent microbial growth.**
- The fuel is **automatically distributed** for a predetermined number of periods programmed to ensure that the contents of the tank are recirculated at a rate of 1.5 times tank's capacity every 28 days.
- **If water is detected in the decanting filter in the unit, it triggers an alarm** and a malfunction warning light comes on (alarm).
- The system is powered by 230 Vac and comprises a 100 mm water decanting filter, fuel conditioner, flow detector, flow failure display, timer.
- Optional weatherproof protective cabinet enclosure (Protection IP-66).

Diagram and electrical connections





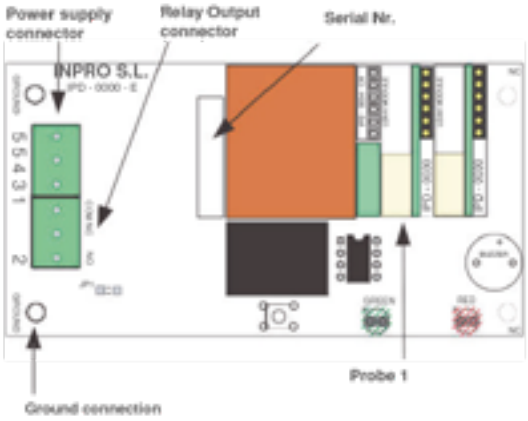
LEAK DETECTOR

Wall Monting Version

- Input: 110 V to 230 V a.c.
- Maximum demand: 10 mA
- Max amperage at the relay: 8 A
- Voltage - free relay: Common input option
- Visual alarm (5 mm red LED)
- Operation indicator (5 mm green LED)
- Code: 23080000000111

Plug version

- Input: 110 V to 230 V a.c.
- Maximum demand: 10 mA
- Max amperage at the relay: 8 A
- European power socket Schucko type , to connect the appliance to be deactivated
- Visual alarm (5 mm red LED)
- Operation indicator (5 mm green LED)
- The standard infrared probe for detection is 150cm-long wire. Other lengths are available
- Code: 23080000001111



Connections:
5) Neutral
5) Neutral
4) Live
3) Relay common
1) Relay normally closed NC
2) Relay normally open NO.

GROUND: Faston connector terminal size M3,5.

SPARES AND SUPPLEMENTS	CODE
Infrared spare probe with 1,5 mt cable	23080000000010
Infrared spare probe with 2 mt cable	23080000020010
Infrared spare probe with 5mt cable	23080000050010
Infrared spare probe with 10 mt cable	23080000010010
Infrared spare probe with 15 mt cable	23080000015010
Infrared spare probe with 25 mt cable	23080000002510
Infrared spare probe with 30 mt cable	23080000030010
Probe cable supplement (per meter, up to 100 mt)	2070240259991

OIL TRAY TYPE: Size (mm)	CODE	SUITABLE FOR
GPS10: 245 x 140 x 40	23090000001000	GPS 10
40: 400 x 230 x 60	23090000001100	GP-30 N / GPS 10 Maxi
62: 620 x 230 x 60	21030000006200	GP30 GE ; GP70-130-200-300-500; RL 0-1-2, FP10-23-41 N
77: 770 x 350 x 55	21030000009201	GP800 N GP70-130 GE
88: 880 x 350 x 60	21030000008800	GP70-130-200-300-500 GE
92: 920 x 350 x 60	21030000009200	GP-800 GE, RL3-4 N,RL 1-4 GE,FP10-120 GE
120: 1200 x 350 x 35	21030000012000	GP 1500 N
140: 1450 x 350 x 35	21030000014100	GP 1500 GE
350 N: 850 x 900 x 220	21030000000035	GPS 350 N
350 GE: 1100 x 1090 x 200	21030000000135	GPS 350 GE
ZG: 780 X 695 X 40	5107	Modulating burner inlet assemblies

VACUUM AND LIQUID BARRIER LEAK DETECTION	CODE
DDP-25 Vacuum type with valve	24060000000111
DDP-14 Interstitial leak detection liquid type	24060000000113

PRESSURE SWITCHES

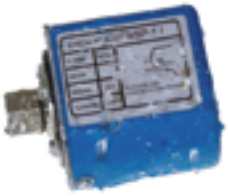
- Safe, easy, adjustable pressure switches membrane type
- With pressure surge system protection
- Adjustment lock

CODE	MODEL	PRESSURE				CONNECTION	COMPATIBILITY
		Minimum	Maximum	Very Low safety OFF	Factory setting*		
22030000901030	DSSG- 1 with lamp **	1,5	4,0	0,8	1,6-2,6 - 0,8	10 mm	Diesel-HVO
22030000900030	DSSG- 1 without lamp **	1,5	4,0	0,8	1,6-2,6 - 0,9	10 mm	Diesel-HVO
22030000901040	DSSG- 2 with lamp **	3,7	6,5	0,8	*	10 mm	Diesel-HVO
22030000900040	DSSG- 2 without lamp **	3,7	6,5	0,8	*	10 mm	Diesel-HVO
22030000002201	SS- 1A	-	1,2	-	*	1/4" IG	Water, Diesel-HVO
22030000002211	SS-1iA 1/4 F	0,3	-	-	*	1/4" IG	Water, Diesel-HVO

* Other settings available under request

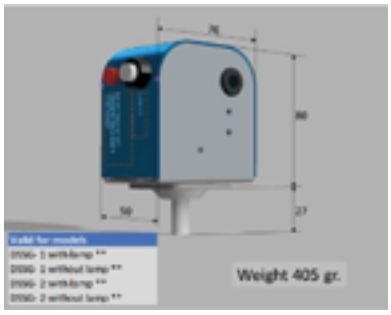
** Including nut and olive

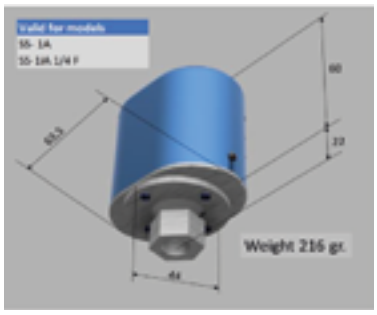
DSSG with lamp



SS Pressureswitch

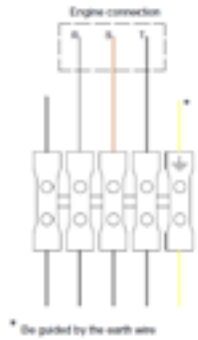
ELECTRICAL CHARACTERISTICS	Current (A)	Operating Temperature range	Protection
Rating nominal /250V AC	5	Water 0 to +60°C	IP20
Rating Thermal /250V AC	17,5	Diesel HVO -5 to +55°C	IP20

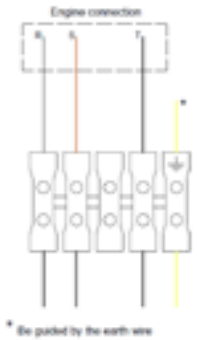




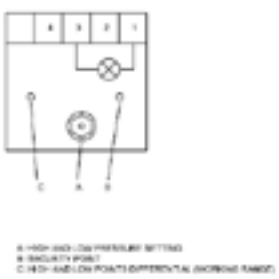
Wiring

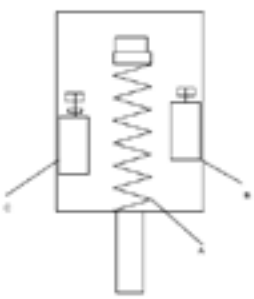
DSSG 1/2 with lamp DSSG 1/2 without lamp SS- 1A / SS-1iA 1/4" F0 to +60°C





Adjusting





OIL INSTALLATION EQUIPMENT - FUEL FILTRATION

FG-100 Transparent aluminium microfilter · 5 µm

- Diesel Filtration: 5 μm (micron)
- Water decanter: by water repellent filtering paper, with water decanting of 93 %
- Capacity: 2 litres
- Transfer capacity: 105 l/min
- Upper microfilter housing: aluminium
- Housing: transparent
- Inlet / Outlet: F1" BSP flanges or threads
- Filtering capacity: 500.000 litres (normal conditions)
- Installation: On the pumping kit suction or delivery
- Max. working pressure: 5 bar
- Drain valve

FG-100BIO Transparent aluminium microfilter · 25 µm

- Biodiesel Filtration: 25 μm (micron)
- Capacity: 2 litres
- Transfer capacity: 105 l/min
- Upper microfilter housing: aluminium
- Housing: transparent
- Inlet / Outlet: F1" BSP flanges or threads
- Filtering capacity: 500.000 litres (normal conditions)
- Installation: On the pumping kit suction or delivery
- Max. working pressure: 5 bar
- Drain valve

FG-150 Transparent microfilter of capacity 10 litres

- Capacity: 10 litres
- Filtration: 5 μm (micron) (with water separation at 93%)
- Max. flow: 160 l/min
- Filter cover: aluminium casting
- Transparent vessel: PA / Max. Pressure 4 bar
- Inlet / Outlet: F1 1/2" GAS (BSP)
- Vacuum gauge: -1 +3 bar
- Manual lower drain valve to empty impurities
- Filtering capacity: 1 million of litres (normal conditions)
- Installation: on the pumping kit suction
- Automatic degasifier

FG-300/15 15 µm (micron) 300 l/min · F2"

- Filtration: 15 μm (micron)
- Capacity: 15 litres in the housing interior
- Flow: 300 l/min
- Microfilter cover and body: Aluminium
- Differential manometer
- Inlet / Outlet Connections: F2" BSP or flange
- Manual lower drain valve
- Installation: at suction or delivery of the pumping kit
- Maximum operating pressure: 6 bar
- Maximum housing pressure: 10 bar

FG-700 / FG-1000 3" / 4" · 15 µm (micron)

- Filtration: 15 μm (micron) · Optional: 50 μm (micron) non-absorbent
- Capacity: 15 litres in the housing interior
- Flow: 700 or 1,000 l/min (according to the number of FG-300 elements)
- Microfilter cover and body: Aluminium
  Differential manometer
- Inlet / Outlet Connections: 3" or 4"
- Manual lower drain valve
- Installation: at suction or delivery of the pumping kit
- Maximum operating pressure: 6 bar
- Maximum housing pressure: 10 bar

Fixed and Portable Filtering Kit + pump 50 / 15 µm water absorbent

- Kits designed for the fuel (diesel, petrol, kerosene, and oil) filtering of buried or aerial tanks, getting the microfiltered fluid free of impurities.
- Special superficial interior and external finish against corrosion
- 2 stage filtering:1st filter 50 μm.2nd 15 μm filter
- BAG-800 pump
- Self-suction - self-priming. Eccentric of self-adjus- ting blades, with recirculation bypass
- Free flow: 100-150 l/min
- Consumption: 4,5-6 A (230 VAC) 1,8-2,7A (400 VAC)
- Motor: 1 kW 230/400 VAC 50 Hz 3ph
- Motor zone classification: II 2G EExd IIB T3
- Motor Certificate: TÜV04 ATEX 2488X
- Operation temperature: 0 ºC - +50 ºC
- Inlet/outlet connection: 1 1/2" BSP

	CODE
FG-100	01110009011210
FG-100 G	01110009011219
FG-100 BIO	01110009011211
FG-150	01110009112100
FG-300/15	01110009011212
FG-700	01110009011213
FG-1000	01110009011214
FIXED F.K FG-300X2	01110000902150
PORTABLE F.K FG 300X2 + PUMP P	01110000902154

OIL INSTALLATION EQUIPMENT - FILTERS

STANDARD BOWL FILTERS				
MODEL	FLOW (l/h)	CONNECTION	FILTERING	CODE
450/3 plastic	40	3/8"	0,1	01110001004010
450/2 aluminium	40	3/8"	0,1	01110002004010
302 plastic	80	1/2"	0,1	01110001008010
301 aluminium	80	1/2"	0,1	01110002008010
313 aluminium	150	1/2"	0,1	01110002011510
207 aluminium	200/400	3/4"	0,1	01110002012010
101 aluminium	400/1.000	1"	0,1	01110002014010
503 aluminium	4.000/15.000	1 1/2"	0,1	01110002024010

SELF CLEANING FILTERS				
MODEL	FLOW (l/h)	CONNECTION	FILTERING	CODE
112	300	1/2" x 1/2"	0,1	01110000013010
112	300	1/2" x 1/2"	0,3	01110000013030
213	1.000	1" x 1/2" x 1"	0,1	01110000021010
213	1.000	1" x 1/2" x 1"	0,3	01110000021030
313	2.000	1" x 1/2" x 1"	0,1	01110000022010
313	2.000	1" x 1/2" x 1"	0,3	01110000022030
410	5.000	11/2" x 11/2"	0,1	01110000025010
410	5.000	11/2" x 11/2"	0,3	01110000025030

CHROMED BRASS STRAINERS	SIZE	FILTERING	CODE
Y - 1/2	1/2"	50 micras	01110005001205
Y - 3/4	3/2"	50 micras	01110005003405
Y - 1	1"	50 micras	01110005010005
Y - 11/4	1 1/4"	50 micras	01110005011405
Y - 11/2	1 1/2"	50 micras	01110005011205
Y - 2	2"	50 micras	01110005020005

FILTER WITH RETURN / 2 PIPE / 1 PIPE	SIZE	FILTERING	CODE
With return	3/8 H	0,1	01110006003815
With return	1/2 H	0,1	01110006001215
2 pipe system	3/8 H	0,1	01110008003815
2 pipe system	1/2 H	0,1	01110008001215
1 pipe system	3/8 H	0,1	01110008003815
1 pipe system	1/2 H	0,1	01110008001215

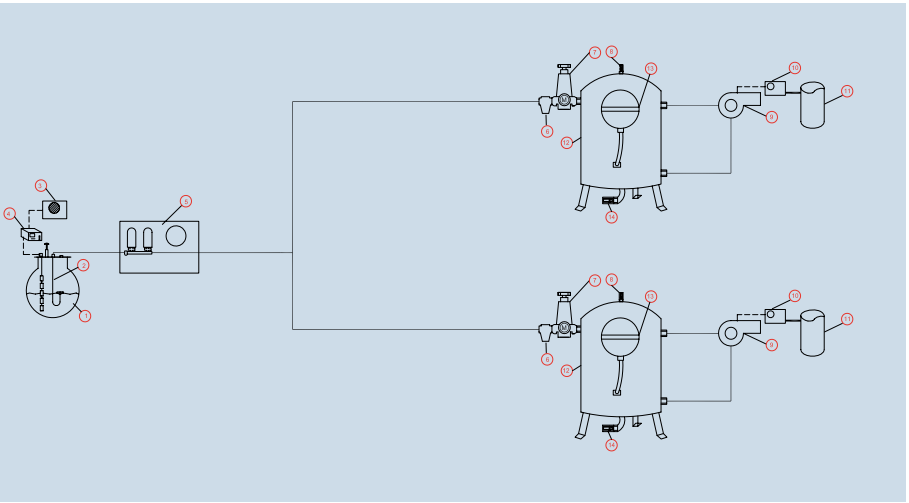
FILTERS FOR OIL WITH HEATER 70°C	SIZE	FILTERING	CODE
157 bowl	1/2"	0,3	01110003012030
151 bowl	1"	0,3	01110003010030
503 bowl	1 1/2"	0,3	01110003011230
112RE selfcleaning	1/2"	0,3	01110003022030
313RE selfcleaning	1"	0,3	01110003025030
410B selfcleaning	1 1/2"	0,3	01110003031030

INPRO OIL BURNER INLET ASSEMBLY

Compact set for burner gas-oil inlet mounted on aluminium manifold. Endowed with all elements necessary for inlet and return to gas-oil burner.

MODEL	INPRO-OIL BURNER INLET assembly		INPRO-OIL BURNER INLET STABILIZER assembly, for Modulating Burners		
	20 l/h	200 l/h	200 l/h	500 l/h	1.500 l/h
Filter	0,1 mm 3/8"	0,1 mm 1/2"	0,1 mm 1/2" iG	0,1 mm 3/4" iG	0,1 mm 1" iG
Pressure reducing valve	20 l/h adjustable with manometer	200 l/h adjustable with manometer	200 l/h adjustable with manometer	500 l/h adjustable with manometer	1500 l/h adjustable with manometer
Burner intake	10 mm	1/2" iG	3/4" iG	3/4" iG	3/4" iG
Burner return	3/8" iG	1/2" iG	3/4" iG	3/4" iG	3/4" iG
Circulation and accumulation reservoir	-	-	50 l	50 l	50 l
Expansion vessel for heating oil	-	-	5 l	5 l	5 l
Emptying connection	-	-	1/2"	1/2"	1/2"
Air vent	-	-	3/8"	3/8"	3/8"
Max. work pressure	4 bar	4 bar	4 bar	4 bar	4 bar
Max inlet pressure	6 bar	6 bar	6 bar	6 bar	6 bar
Vertical / horizontal attachment support	-	Yes	No	No	No

1) Main storage tank
2) Intake pipe
3) Over ll prevention kit
4) Remote level gauge EDM 40
5) Pressure Pump Inpro GP
6) Filter
7) Pressure reduction valve (using pressure gauge)
8) Air vent
9) Modulating burner
10) Adjustable exhaust temperature limiter IT-17
11) Burner exhaust pipe
12) Reservoir
13) Membrane expansion vessel
14) System drain



PRESSURE REDUCING VALVES

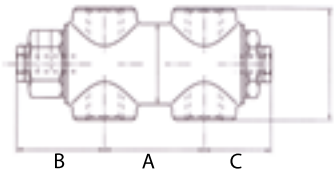
FLOW l/h	MAXIMUM INLET PRESSURE	REGULATION	CONNECTION	ACCESSORIES
20	6 kg/cm²	Fixed outlet 0,1 kg/cm²	For 8 mm tube	
20	6 kg/cm²	Fixed outlet 0,1 kg/cm²	For 10 mm tube	
200	10 kg/cm²	Adjustable 0,2-3,5 kg/cm²	Female 1/4"	With manometer
500	10 kg/cm²	Ajustable 0,2-3,5 kg/cm²	Female 3/8"	With manometer
1.500	10 kg/cm²	Adjustable 0,2-3,5 kg/cm²	Female 1/2"	With manometer
2.000	10 kg/cm²	Adjustable 0,2-3,5 kg/cm²	Female 3/4"	With manometer
3.000	10 kg/cm²	Adjustable 0,2-3,5 kg/cm²	Female 1"	With manometer

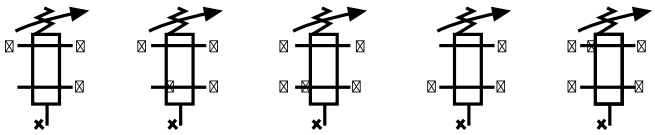
OVERFLOW VALVES

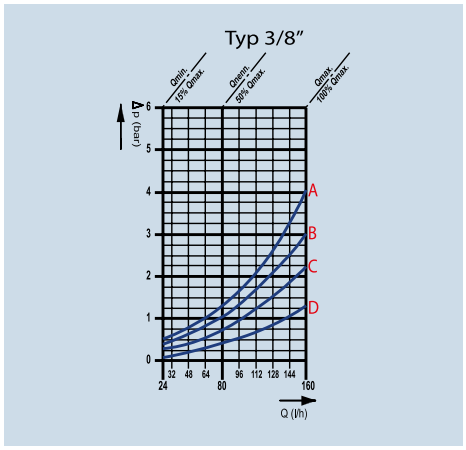
Directly controlled, spring-loaded overflow valve to maintain a set operating pressure or a set maximum pressure. For lubricating and hydraulic oils and many other self-lubricating, non-corrosive fluids.

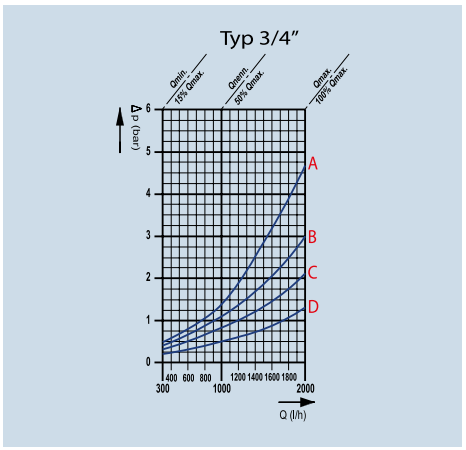
MODEL	PRESSURE RATING FOR TYPE (Order No.)	CONNECTION THREAD/ FLANGE	FLOW RATE1) l/h	VISCOSITY RANGE1) cSt	DIMENSIONS			
					A	B	C	D
2	0 = 0,5 -1,5 bar 1 = 1 - 4 bar 2 = 2 - 9 bar 3 = 6 - 26 bar 4 = 15 - 40 bar	G 1/4"	15 - 120	2,8 - 480	44	36	34	26
3		G 3/8"	24 - 160	2,8 - 480	55	51	37	36
5		G 1/2"	90 - 600	2,8 - 480	55	51	37	36
6		G 3/4"	300 - 2.000	2,8 - 480	63	50	60	73
7		G 1"	300 - 2.000	2,8 - 480	80	48	58	86
8		G 1 1/4"	1.500 - 10.000	2,8 - 480	80	71	60	56
9		DN 15	90 - 600	2,8 - 480	92	55	95	92
10		DN 20	300 - 2.000	2,8 - 480	118	63	106	118
11		DN 25	900 - 6.000	2,8 - 480	134	80	115	134
12		DN 32	1.500 - 10.000	2,8 - 480	138	80	140	138
13		DN50	80000-20000	2,8-480	205	140	165	205

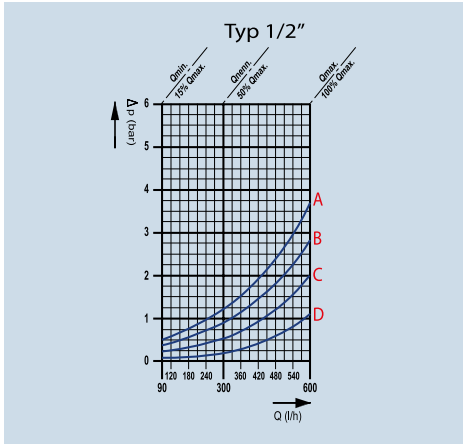
X- Closed or Pressure Gauge
T- Tank (Overflow)
P- Pressure

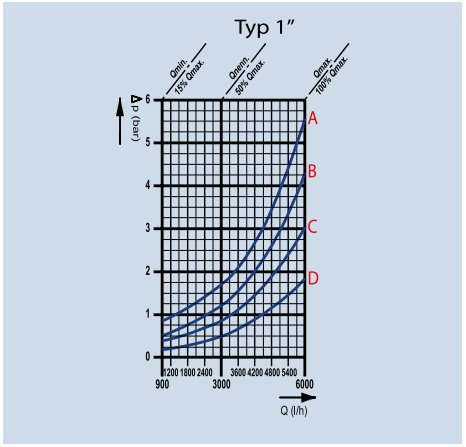












A) 50^0 E=380 cSt
$380x10^{-6}$ $m^{-2}s^{-1}$

B) 20^0 E=152 cSt
$152x10^{-6}$ $m^{-2}s^{-1}$

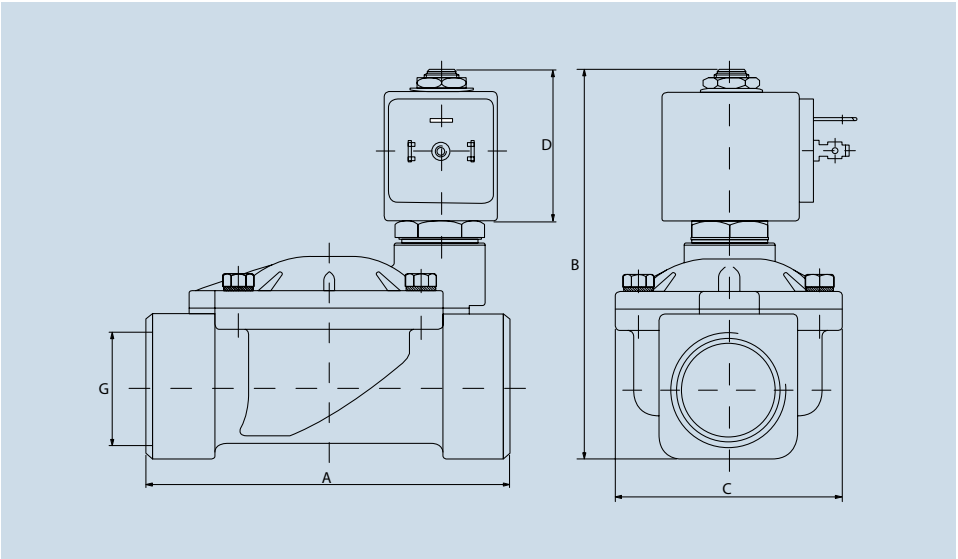
C) 5^0 E=38 cSt
$38x10^{-6}$ $m^{-2}s^{-1}$

D) $1,4^0$ E=5cSt
$5x10^{-6}$ $m^{-2}s^{-1}$

SOLENOID VALVE WITH COIL, FILTER AND FLOW LIMITER

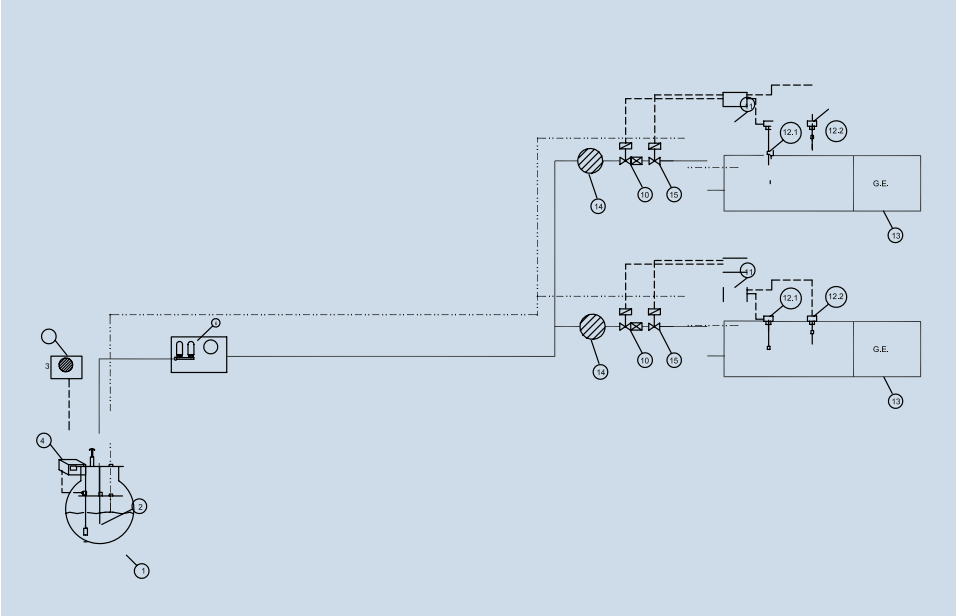
Day tank inlet set for diesel oil to be used with pressure accumulator transfer pumps type Inpro GP

MODEL	NOMINAL DIAMETER	Kv	Q max	PERMISSIBLE DIFFERENTIAL PRESSURES			DIMENSIONS (mm)			
	mm	m^3/h	m^3/h	min	max		A	B	C	D
					CC	CA				
3/8"	13	3,00	3,00	0,1	20	20	69	99,5	40	44
1/2"	13	3,00	3,00	0,1	20	20	72	101,5	40	44
3/4"	20	8,40	8,40	0,1	20	20	100	107	65	44
1"	25	9,60	9,60	0,1	20	20	104	112,5	65	44
1 ¼"	35	25,20	25,20	0,1	10	10	145	134	102	44
1 ½"	40	30,00	30,00	0,1	10	10	145	134	102	44
2"	50	37,20	37,20	0,1	10	10	145	148	118	44
3"	75	83,00	83,00	0,2	10	10	250	195	184	44



Accessories and custom-made products

- Function: Solenoid valve 2/2 - normally closed - (type 7321BB).
- Mounting position: Uniform. Preferably, install the coil facing upwards.
- Material specifications: Housing made of embossed brass. Internal parts made of stainless steel. Gaskets made of synthetic materials NBR.
- Liquids: diesel and water.
- Maximum allowable temperature of the liquid: 90ºC
- Ambient temperature: min. -10ºC / max. 90ºC
- Electrical Part: Protection Standard, IP 65



1) Main storage tank
2) Suction
3) EDM40 level gauge flexible probe
4) EDM40 control display with 2 relay output
5) Overfill warning kit with alarm and reset
6) Liquid barrier
7) DDP25 leak detection system for double wall tanks
8) INPRO GP Pumpset for oil
9) NC solenoid valve for oil with flow limiter
10) SMMR-2 level control
11,1) Level probe Open/Close/Safety stop
11,2) Level probe NO solenoid v. (Very high level)
12) Filter
13) NO Solenoid valve for oil
14,1) Flow switch control at vent (probe)
14,2) Flow switch control at vent (control)
15) Power Generator
16) Leak detection system, wall mounting system

Scope of delivery

- Flow limiter factory set and sealed to the required flow and consists of a solenoid valve with chrome-plated brass body and nylon closures.
- Solenoid valve (normally closed), with a 230 V coil, maximum pressure 20 bar, with brass body and nitrile diaphragm suitable for diesel oil.
- Strainer made of chrome-plated brass with 0.1 mm mesh size in stainless steel PN 16 or higher, suitable for diesel oil.

The solenoid valve is controlled by a float switch SMMR1. SMMR1: probe + control box with 1 relay.

Optional: Safety system with solenoid valve, normally open

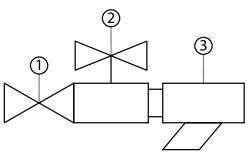
A solenoid valve (de-energized) is mounted in series in the aforementioned system to increase safety. This solenoid valve will receive a signal from a second independent float switch and stop the oil supply.

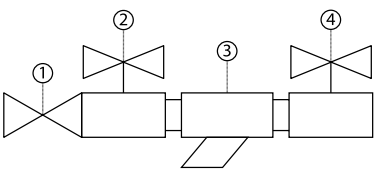
Scope of delivery

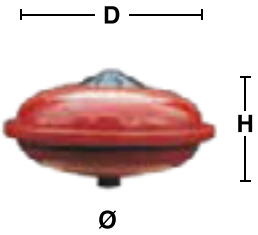
Points 1, 2 and 3 (as above scope of delivery) and additionally 4.

- Solenoid valve with a 230 V coil, maximum pressure 20 bar, with brass body and nitrile diaphragm suitable for diesel oil.

The solenoid valve -normally closed- is controlled by a float switch SMMR2.
SMMR 2: Probe + control box with 2 relays.
See Application Schema: 11 and 12.1
The solenoid valve -de-energized o en- is controlled by an additional probe for SMMR1.
Probe for SMMR1
See Application Schema: 12.2



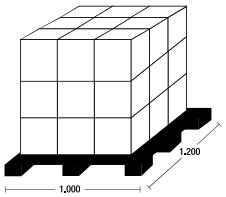




HM MEMBRANE PRESSURE EXPANSION VESSELS (DIESEL OIL)

TYP	VOLUMEN	MAX. BETRIEBSÜBERDRUCK	ABMESSUNGEN (D X H)	ANSCHLUSS	GEWICHT	MINDESTAB NAHMEMENGE*	STCK. / 1/2 PALETTEN	ARTIKEL-NR.
	l	bar	mm	Ø	Kg			
1 HMF	1	3,00	3,00	3/4"	1,3	8	180	01020000001455
2 HMF	2	3,00	3,00	3/4"	1,5	8	120	01020000002455
5 HMF	5	8,40	8,40	3/4"	2	4	75	01020000005805
8 HMF	8	9,60	9,60	3/4"	3	4	75	01020000008855
15 HMF	15	25,20	25,20	3/4"	4	4	60	01020000015805
24 HMF	25	30,33	30,33	3/4"	4,5	4	40	01020000025805

- Diaphragm pressure expansion vessels in accordance with the Pressure Equipment Directive 97/23/EC
- Max. temperature: + 100 ºC
- Colour: red powder-coated
- No replaceable diaphragm



HAND PUMPS - LUBRICANT - AVIATION

Excelsior

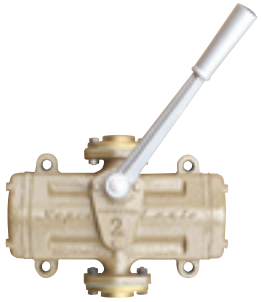
Semi-rotary hand pump, self-priming, double acting and reciprocating action. Cast iron body and cover, internal parts made of bronze; according to the versions seals may be NBR or Viton. Maximum delivery head is 25 meters.

MODEL	SEALS	Ø	LTS/MIN	KG	H	ART NR.
E00	NBR	3/8"- G 1/2"	14	2,2	7	06065000000000
E1	VITON	3/4"	20	4,3	8,5	06065000000001
E2	NBR	G 1"	30	5,5	8,5	06065000000002
E3	NBR	G 1" 1/4	40	8,3	8,5	06065000000008
E5	NBR	G 1 1/2"	80	23	7	06065000000005
E7	NBR	G 2"	105	32	7	06065000000007
*: Without flanges						

Voltiana Pump

Full rotary action hand pump, self-priming, fully reversible, one revolution 360°. Cast iron body. Bronze internal parts.

MODEL	SEALS	Ø	LTS/MIN	KG	H	ART NR.
V2	NBR	1"	46	4,5	5 m	06065000000003
*: Without flanges						



Super Lario

Piston hand pump, self-priming, double acting and reciprocating action; Cast iron body.

MODEL	SEALS	CONNECTION	LTS/MIN	KG	H	ART NR.
SL 3	NBR	G 1" 1/4	55	12,2	8 m	06065000000015
SL 4	NBR	G 1 1/2"	80	18,5	8 m	06065000000014
SL 5	NBR	G 2"	110	28,1	8 m	06065000000004
For other versions, flows and executions also available, please						

OIL FLOW METERS VZO 4-8 CLASSIC / OEM

	WITHOUT PULSE REED	WITH PULSE REED
	CODE	CODE
VZO - 4 Q 0,5	92678	-
VZO - 4	92680	89761
VZO - 8	92630	89731

	CODE
VZO - 4 OEM	89765
VZO - 8 OEM	89771

MODEL			VZO - 4Q 0,5	VZO - 4	VZO - 8	VZO - 4 OEM	VZO - 8 OEM
NOMINAL DIAMETER		mm inch	4 1,8	4 1,8	4 1,8	4 1,8	4 1,8
CONNECTION THREADS OF METER		inch	1/8	1/8	1/4	1/8	1/4
NOMINAL PRESSURE		Bar		25		32	25
TEMPERATURE	TMAX	°C			60		
MAXIMUM FLOW RATE NOMINAL FLOW RATE MINIMAL FLOW RATE APPROX. STARTING FLOW RATE	Qmax1) Qnom1) Qmin2)	l/h l/h l/h l/h	40 25 0,5 0,3	80 50 1 0,4	200 135 4 1,6	80 50 1 0,4	200 135 4 1,6
MAX. PERMISSIBLE ERROR REPEATABILITY					± 1 % of actual value2) ± 0,2 %		
SMALLEST READABLE AMOUNT REGISTRATION CAPACITY		l m3	0,125 0,080	0,125 0,080	0,150 0,100	- 0,080	0,150 0,100
VOLUME OF THE MEASURING CHAMBER		Approx. CM^3	5	5	12,5	5	12,5
WEIGHT WITHOUT COUPLINGS		Approx. KG	0,65	0,65	0,75	0,65	0,75
REED PULSERS	RE	I/PULSE				0,005	0,0125
	RE 0,1		- -	- 0,1	1 -	4,444 0,058	4,444 0,089

[1] For burners and engines or motors, the meter must be selected on the basis of the permanent flow rate. For higher viscosities, or if the meter is installed on the suction side, the pressure drop and any reduction in the measuring range must also be taken into consideration.
[2] Max. permissible error: VZO 4 Qmin 0.5: 0.5 l/h...2 l/h = +1 %/–2 %. VZO 4: 1 l/h...2 l/h = +1 %/–2 %.

REMOTE TOTALIZER WITH RESET FOR VZO RE	CODE
VZO RE Totalizer	23050000000001

- Remote display of flow metering
- Reset pushbutton
- Battery life ± 5 years

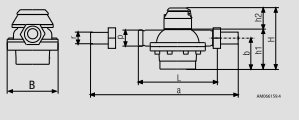
OIL FLOW METERS VZO 15-50 CLASSIC

	WITHOUT PULSE REED	WITH PULSE REED
	CODE	CODE
VZO - 15	92041	92042
VZO - 20	92047	92048
VZO - 25	92057	92058
VZO - 40	92004	92018
VZO - 50	92007	92024

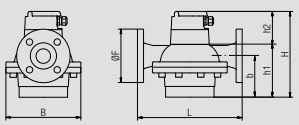
MODEL				VZ0 15	VZ0 20	VZ0 25	VZ0 40	VZ0 50
NOMINAL DIAMETER			DN (mm) Inch	3/4”	1”	1 1/4”	2”	50
INSTALLATION LENGTH			mm	165	165	190	300	350
NOMINAL PRESSURE WITH THREADED ENDS WITH FLANGES		PN PN	BAR BAR	16 25,40				
MAXIMUM TEMPERATURE		TMAX	°C	130, 180				
MAXIMUM FLOW RATE NOMINAL FLOW RATE MINIMAL FLOW RATE APPROX. STARTING FLOW RATE	Qmax1) Qnom1) Qmin		l/h l/h l/h l/h	600 400 $10^{4)}$ 4	1.500 1.000 30 12	3.000 2.000 75 30	9.000 6.000 225 90	30.000 20.000 750 300
MAX. PERMISSIBLE ERROR REPEATABILITY				± 1 % of actual value ± 0,2 %				
SAFETY FILTER MESH SIZE DIRT FILTER MESH SIZE			mm mm	0,400 0,250	0,400 0,400	0,400 0,400	0,800 0,600	0,800 0,600
VOLUME OF THE MEASURING CHAMBER			Approx. CM^3	12	36	100	330	1200
HOUSING FINISH				enamelled red RAL 3013				
WEIGHT WITH THREADED ENDS[2)] WITH FLANGES PN 25 WITH FLANGES PN 40			Approx. KG Approx. KG Approx. KG	2,2 3,8 4,4	2,5 4,5 5,5	4,2 7,5 7,8	17,3 20,3 20,5	- 41,0 42,0
SMALLEST READABLE AMOUNT REGISTRATION CAPACITY			l m^3	0,01 1000	0,1 10.000	0,1 10.000	0,1 10.000	1 100.000
PULSE VALUES OF PULSERS: IN INDUCTIVE ACCORDING TO IEC 60947-5-6 l RV REED RV REED			l/pulsos l/pulsos l/pulsos	0,01 0,1 1	0,01 1 -	0,1 1 -	0,1 1 -	1 10 100
PULSE FREQUENCY IN	Qmax Qmax		HZ HZ	16.667 0,278	41.667 0,833	8.333 0,208	25.000 0,625	8.333 0,208

[1)] For burners and engines or motors, the meter must be selected on the basis of the permanent flow rate. For higher viscosities, or if the meter is installed on the suction side, the pressure drop and any reduction in the measuring range must also be taken into consideration.
[2)] Weight without couplings.

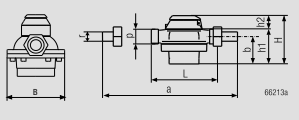
DN 15, 20, 25: with threaded ends (ISO 228-1)



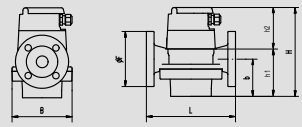
DN 15, 20, 25: with flanges (DIN 2501/SN 21843)



DN 40: with threaded ends (ISO 228-1)



DN 40, 50: with flanges (DIN 2501/SN 21843)



OIL FLOW METERS VZF II 15-50

VZF II Flow and Mass Fuel Meter - (replaces VZF)

	CODE
VZF II-15	95506
VZF II-20	95519
VZF II-25	95535
VZF II-40	95551
VZF II-50 FL (Brida DIN)	95560

VZF (A) II Flow and Mass Fuel Meter +/- 0,5% Max.error

	CODE
VZF II-15	95511
VZF II-20	95527
VZF II-25	95543
VZF II-40	95559
VZF II-50 (Flanged)	95567

MODEL			VZF 15	VZF 20	VZF 25	VZF 40	VZF 50
NOMINAL DIAMETER		DN Inch	3/4”	1”	1 1/4”	2”	50
INSTALLATION LENGTH		mm	165	165	190	300	350
NOMINAL PRESSURE WITH THREADED ENDS WITH FLANGES	PN PN	BAR BAR	16 25	16 25	16 25	16 25	16 25
MAXIMUM TEMPERATURE	TMAX	°C	130, 180				
MAXIMUM FLOW RATE NOMINAL FLOW RATE MINIMAL FLOW RATE APPROX. STARTING FLOW RATE	Qmax1) Qnom1) Qmin2)	l/h l/h l/h l/h	600 400 10 4	1.500 1.000 30 12	3.000 2.000 75 30	9.000 6.000 225 90	30.000 20.000 750 300
MAX. PERMISSIBLE ERROR REPEATABILITY			± 1 % of actual value ± 0,2 %				
SAFETY FILTER MESH SIZE DIRT FILTER MESH SIZE		mm mm	0,400 0,250	0,400 0,400	0,400 0,400	0,800 0,600	0,800 0,600
VOLUME OF THE MEASURING CHAMBER		Approx. CM^3	12	36	100	330	1200
HOUSING FINISH			enamelled red RAL 3013				
WEIGHT WITH THREADED ENDS2) WITH FLANGES PN 25		Approx. KG Approx. KG	2,2 3,8	2,5 4,5	4,2 7,5	17,3 20,3	- 41,0
TOTAL VOLUME RESETTABLE VOLUME DIGITAL FLOW RATE DISPLAY REGISTRATION CAPACITY REGISTRATION TIME UNTIL OVERRUN		l, m3 kg, t, lb (l, G, m3,kg, t, lb) / (s, min, h) l, m3, G	G Up to 3 decimal places (dynamic) Up to 3 decimal places (dynamic) Up to 3 decimal places (dynamic) 8 digits >100 years				
OUTPUTS3) TOTAL MASS CURRENT 4..20 MA FOR FLOWRATE FREQUENCY FOR FLOW LIMITING SWITCH		Vol./pulse I4/Q1, I20 Q2 f1/Q1, f2/Q2 Qmin, Qmax	pulse value and width parameterisable flow rates to 4 and 20 mA parameterisable frequency and flowrate parameterisable minimum, maximum and hysteresis parameterisable				

1) For burners and engines or motors, the meter must be selected on the basis of the permanent flow rate. For higher viscosities, or if the meter is installed on the suction side, the pressure drop and any reduction in the measuring range must be taken into consideration.
2) Weight without couplings.
3) Two freely selectable outputs are available, totally independent of each other.

DOMINO: FLOW METERS FOR SPECIAL LIQUIDS

ARD rotary piston flowmeters

For chemical liquids with viscosities up to about 10.000 mPa·s, for 15...30.000 l/h

- Nominal diameter DN 15, 20, 25, 40 and 50 mm
- Operating pressures PN 10, 16, 25 or 40
- Fluid temperatures up to 180 °C
- Modular meter concept in various materials
- Measuring error limits ±0,5 % of effective value
- For high viscosity range up to about 10.000 mPa·s
- Swiveling roller register for optimal readability
- Special-purpose calibrations for differential measurement (optional)

AMD rotary piston flowmeters

For chemical liquids with low viscosities up to about 4 mPa·s, for 140...12.000 l/h

- Nominal diameter DN 25 and 40 with flanged connections
- Operating pressure PN 25
- Fluid temperatures up to 90 °C, special versions up to 180 °C
- Measuring error limits 2 % of effective value (±5 % at lower end of measuring range)

PMD vane wheel flowmeters

Primarily for water, also for non-aggressive low-viscosity fluids up to about 4 mPa·s, for 100...20.000 l/h

- Nominal diameter DN 20, 25 and 40 with threaded connections
- Operating pressure PN 16
- Fluid temperatures up to 90 °C
- Measuring error limits ±2 % of effective value (±5 % at lower end of measuring range

Selection of commonly measured liquids for DOMINO:

- Acetic acid
- Acetone
- Animal fats
- Ammonium hydroxide
- Ammonia solutiuon
- Bromium hydroxide
- Bromic acid
- Butyl acetate
- Acetic butyl ester
- Chloroform
- Trichloromethane
- Citric acid
- Diethylene glycol
- Distilled water
- Ethyl acetate
- Acetic ether
- Acetic ester
- Ethyl alcohol
- Alcohol
- Ethanol
- Ethyl ethylene
- Ethylene
- Diethyl ethylene
- Ethylene glycol
- Formaldehyde solution
- Formic acid
- Glycerine
- Hexine
- Hydrochloric acid
- Hydrofluoric acid
- Hydrogen peroxide
- Hydrogen superoxide
- Isopropyl ether
- Di-isopropyl ether
- Isopropyl alcohol
- Propyl alcohol
- Kerosine
- Petroleum
- Liquid ammonia
- Liquid bromium
- Liquid butane
- Magnesium sulphate
- Methanol
- Methyl alcohol
- Methylene chloride
- Dichloromethylene
- Methyl ethyl ketone
- Molasses (without urea)
- Nitric acid
- Paraffin
- Perchloroethylene
- Tetrachloroethylene
- Phosphoric acid
- Potassium hydroxide
- Caustic potash
- Propionic acid
- Prussic acid
- Pure benzol
- Sodium chloride solution
- Brine
- Sodium hydroxide
- Caustic soda solution
- Sodium hypochlorite solution
- Javelle water
- Sulfocarbonic acid
- Sulphuric acid
- Tar
- Pitch
- Tetrachloromethane
- Carbon tetrachloride
- Toluene
- Trichloroethylene (dry)
- Vegetable oils

BRAUN HZ FUEL

HZ3

Flow rate range	0,18 … 12 l/h
Maximum flow rate	30 l/h (25 kg/h)
Display range	0,01 l … 99999,99 l
Measuring accuracy	±1 %
Nominal pressure	6 bar
Pressure loss	0,05 bar … 0,1 bar
Heating oil type	EL according to DIN 51603
Temperature range/ ambient temperature	–5°C … +70°

HZ5

Flow rate range	0,7 … 40 l/h (0,6 … 34 kg/h)
7 kW … 400 kW	
Reading option on the oil meter	0,01 l … 99999,98 l
Measuring accuracy	± 1 %
Nominal pressure	25 bar
Pressure loss	0,05 bar … 0,2 bar
Type of heating oil	EL nach DIN 51603
Temperature range / ambient temperature	–5°C … +70°C

HZ6

Flow rate range	1 … 60 l/h (0,8 … 50,4 kg/h)
Burner capacity	10 kW … 600 kW
Reading option on the oil meter	0,01 l … 99999,98 l
Measuring accuracy	± 1 %
Rated pressure	25 bar
Pressure drop	0,05 bar … 0,2 bar
Types of heating oil	EL nach DIN 51603
Temperature range / ambient temperature	–5°C … +70°C

ELECTRONIC FLOW METERS AND PULSERS

for fuel transfer monitoring

ELECTRONIC FLOW METERS	FLOW	CONNECTION	MAX. PRESS (BAR)	CODE
MGE-40	2 - 40 l/min	F½"	50	06060006140000
MGE-110	5 - 110 l/min	F1" or flange	55	06060006115042
MGE-110 HI - Preset	5 - 110 l/min	F1" or flange	55	06060006115043
MGE-250 1"	10 - 250 l/min	F1" or flange	45	06060006115044
MGE-250 1½"	10 - 250 l/min	F1 ½" or flange	45	06060006115045
MGE-400	15 - 400 l/min	Flange 2" BSP	45	06060006115046

– 5 numbers display, till 2 decimals "999.99"
– Digital Display of liquid crystal, not watertight

– Temp. min./max. : -10ºC / +50ºC
– Accuracy: ±0,5% 110 HI).
– Inlet/Outlet Connection: F1" o 1½" (flange) (MGE-250)
– Inlet/Outlet Connection: Flange 2" BSP (MGE-400)
– Power supply: Button battery (long life, 4 years typically)
– Power supply 230 Vca (MGE-110 HI)

FLOW METERS WITH PULSER AND DISPLAY	FLOW	CONNECTION	MAX. PRESS (BAR)	CODE
MGE/i-110	5 - 110 l/min	F1"	55	06060006115048

– Temp. min./max. : -10ºC / +50ºC
– MGE frontal display with press button

PULSER	MAX. PRESS (BAR)	PULSEX lts.	FLOW	CODE
MGI-40 / H½"	50 bar	78	2 - 40 l/min (oil-lubricant)	06060009005052
MGI-110 / H1" or flange	55 bar	41	5 - 110 l/min (oil) 5 – 80 l/min (lub.)	06060009005053
MGI-250 / H1" - 1½" or flange	45 bar	11	10 - 250 l/min (oil) 10 - 150 l/min (lub.)	06060009005054
MGI-400 / flange 2" BSP	45 bar	5,5	15 - 400 l/min (oil) 15 - 300 l/min (lub.)	06060009005055

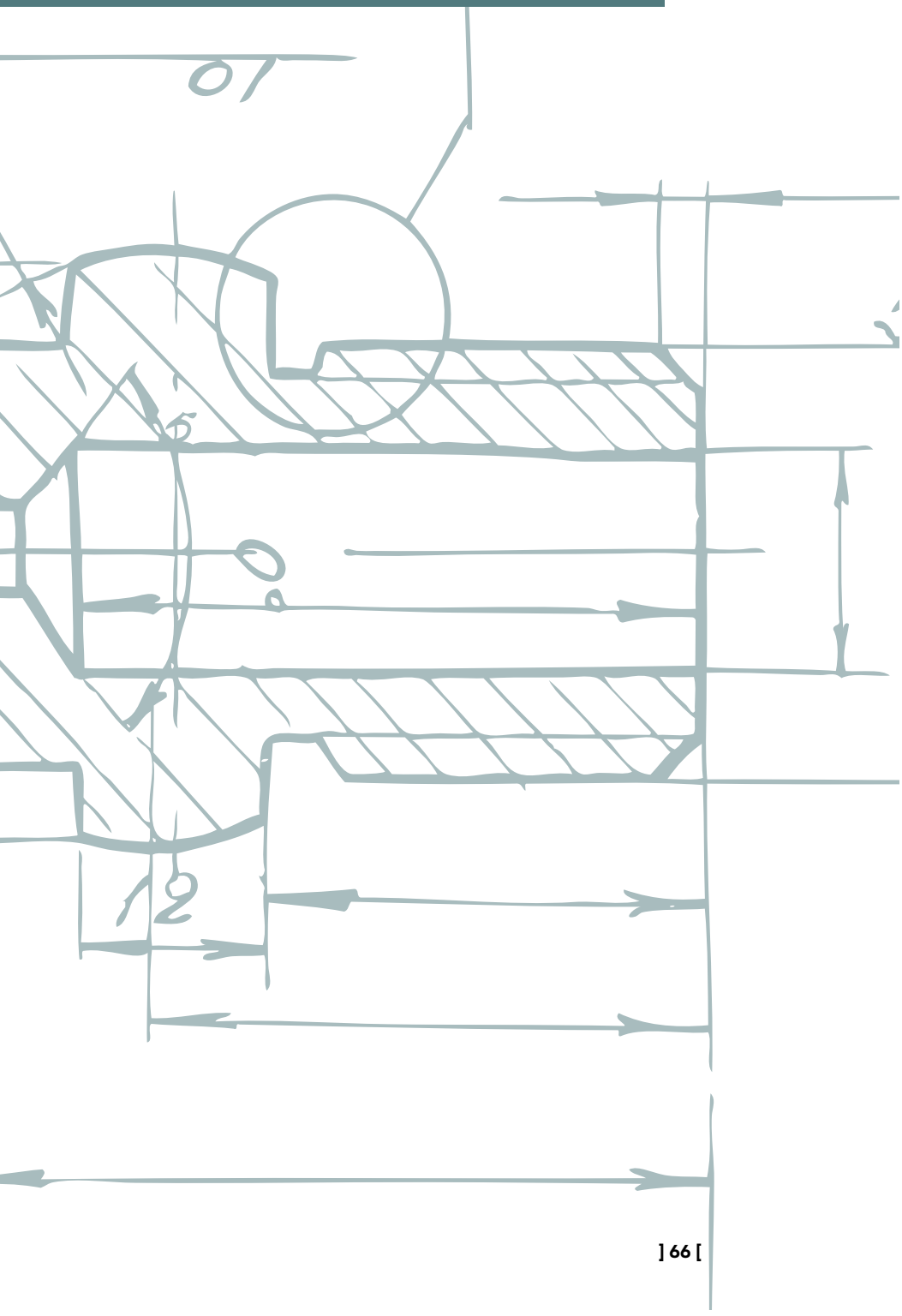
– Accuracy: ±0,5%
– Temp. min./max. : -10ºC / +50ºC

MODEL	CODE
GE · 230 VAC · Display with hose module with volume preset	06060006115048

6-digit electronic tropicalised console with luminous display of liquid crystal, powered at 230 VAC or 12-24 VDC, which allows to:
- See the partial and total of the supplied volume.
- Connect to different types of meters with pulsers of 1 or 2 channels.
- Preset the volume to be supplied, connecting it to a pump and/or solenoid valve.
- Connect it to an external switch or nozzle holder.
- Connect it to external controller through the RS-485 communication bus

Dim.: 250x100x200 mm (length x width x height)
Weight: 1.165 kg

TANK LEVEL MONITORING



TANKALERT ECO OIL

TANK	Min. 0,5 m (depth) - Max 3 m (depth or wide) Max 19.999 litres - Min 300 litres (content)
MEASUREMENT DISPLAY	Multi-function LCD display including: • 10 bar-graph level indication on both Inpro EcoOil Monitor and Transmitter* • Display of various current and historical values • Display control with five control buttons. • Red LED for low level indication at 5% or less of usable fuel remaining. • Audible alarm sounds every hour on the hour when the tank level is low. **The transmitter and Monitor bar-graph displays may differ (see display symbol reference table).*
MAX COMUNICATION DISTANCE	Typically 150m in normal 'line of sight' conditions
POWER SUPPLY	Receiver: • Mains Power Supply (included): 150V-240V, 50-60 Hz, meets EN60950-1. (5V DC (40mA)) • Back up battery**: 3V LiMn ***This deice contains a small battery to keep time during power cuts. If the device is left unpowered for an extended period then the battery will deplete.*
BATTERY LIFE	Transmitter: 5 years (estimated life)
WIRELESS COM	433MHz FM transmission (EN300-220)
DIMENSIONS	Receiver: 120mm x 90mm x 50mm Transmitter: 140m x 70mm x 40mm
AMBIENT CONDITIONS (TRANSMITTER)	Operating temperature range: -10°C to +60°C Operating Humidity : 0 -95% non-condensing
AMBIENT CONDITIONS (RECEIVER)	Operating temperature: 0°C to 50°C - Humidity: 15 to 95% IP 44 Indoors only
RESOLUTION ACCURACY	Ultrasonic resolution: 1 cm typically 2 cm from 12 cm to 3 m /
HOLE SIZE FOR TANK FITTING	60 mm or 2", 2 1/2", 1 1/4", thread

Solution for reservoirs with obstacles:

Tankalert EcoOil Plus

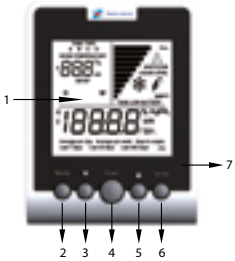
It allows to remote monitoring the volume at underground tanks, or with FM communication difficulties with the receiver.

Waveguide Mode Operation:

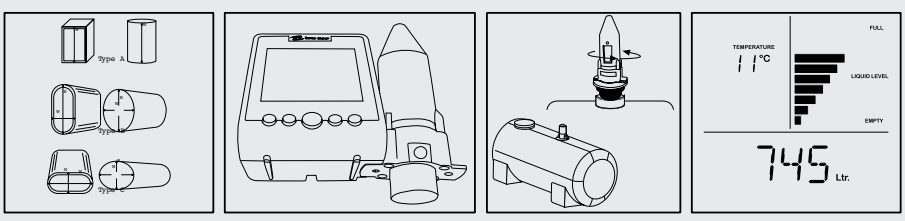
Tankalert EcoOil can be mounted and programmed at installation site with a 32 mm OD tubing (not included). This avoids any ultrasonic read error in the case of an obstacle is the inner tank (suction pipe, not regular tank walls, etc ...) avoids the correct ultrasonic function, as the reading is done inside this tube.

ONLY 4 STEPS... AND READY TO USE:

1. Eco Oil display setup (time, tank type, litre volume and size:-W&H-).
2. Connect the monitor at a plug and pair with sender.
3. Install the transmitter on the tank thread or hole (2", 1 ½", 1 ¼" or 60 mm)
4. Eco Oil will display:
   - Remaining volume in litres and % oil.
   - Days to empty.
   - Oil average cost per day, week, month or year.
   - Environmental: kgCO2 emitted per day, week, month or year.



1) LCD Display
2) MODE key
3) DOWN key (s)
4) ENTER key
5) UP key (r)
6) SETUP key
7) ALARM red LED
8) Tank top Transmitter oil level display



WIFI TANKALERT - INPROCLOUD

Ultrasonic level gauge for tanks - wifi access to web & app

Ultrasonic level gauge with built-in WiFi modem Wi-Fi to Inpro Cloud & App.

- Liquid level monitoring.
- For diesel, lubricants, water, waste oil, antifreeze...
- Battery operated, no power supply required.
- Optimize fuel distributor supply.
- Reading history features available for efficiency control.
- Remote configuration through Web platform.
- Easy to install.
- 2 years warranty.
- CE Compliance and ROHS Compliant.
- Monitoring: 4 ultrasonic daily sample measurements of ultrasonic metering and one WiFi connection per day to update historic database.
- Spot reading available through built-in pushbutton.
- Anytime access to last read value and historical data through IOS or Android App.

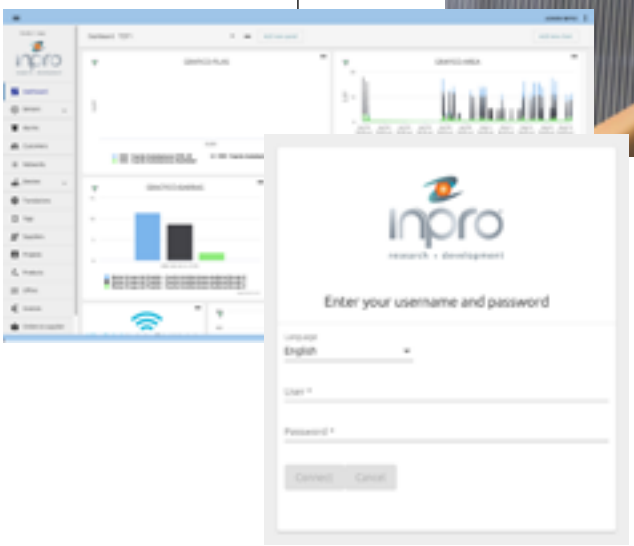
Solution for reservoirs with obstacles:

Waveguide Mode Operation:
WIFI Tankalert can be mounted and programmed at installation site with a 32 mm OD tubing (not included). This avoids any ultrasonic read error in the case of an obstacle is the inner tank (suction pipe, not regular tank walls, etc ...) avoids the correct ultrasonic function, as the reading is done inside this tube.

Inpro Cloud Web Platform

Product Code: 06110000100008

1 or 5 years forfait use available.



WIFI TANKALERT - INPROCLOUD

SPECIFICATIONS	
Characteristics	**Product Code: 06110000100119**
Dimensions	109mm(W) x 109mm(L) x 108mm(H) ±1mm 4.3"(W) x 4.3"(L) x 4.25"(H) ±0.1"
Weight	227g (8oz) including battery
Housing Material	UV Stabilized Polypropylene (compatible with Oil)
Operating Temperature	17°C to +50°C (0°F to +122°F) (Note 1)
Storage Temperature	+20°C to +25°C (+68°F to +77°F) clean, cool, dry and ventilated. (Note 1)
Humidity range	15% - 95%
Altitude range	2.462GHz<2Km (<6,000') above sea level
Environmental Protection	IP-67 Outdoors
Wifi	Supports 802.11 b/g/n Wi-Fi
Frequency	2.412GHz to 2.462GHz
Output power	15dBm ±3dBm (as measured into the internal antenna on the PCB; internal antenna gain = -3dB)
Gauge Type	>Ultrasonic
Ultrasonic Range	>12cm to <300cm (>5" to <115") (Note 2)
Ultrasonic Signal Diversion	30° (Note 3)
Ultrasonic Resolution	±1cm (±0.5")
Accuracy	±2cm (±1")
Material compatibility	(Note 4)
Battery type	3.6V Li-SOCl2 Size R14 (C) (such as Saft LSH14)
Expected battery life	7.5 Years from activation (Note 5)
Enclosure colour	Olive green - Pantone 376C (adapter – Black)

ACCESORIES	
Tank mounting options	Fits directly into female 1 ¼", 1 ½" or 2" BSP threads. 2" recommended, as an optional adapter is required for 1 ¼" and 1 ½"
Gasket (included)	Material EPDM 89mm(Ø) x 4mm(H) ±1mm (3.5"Ø x 0.16"(H) ±0.1" Distance between hole centres 50mm ±1mm (2" ±0.1")
Antenna (optional)	Available with an external Wi-Fi antenna SMA connector. Contact manufacturer for details.

CONFORMITY	
Complies with current Directives for Electromagnetic compatibility and the Low voltage directive for product safety and the current R&TTE directive for radio.Compliance was demonstrated to the following specifications as listed in the official journal of the European Communities.	
EN 55022,A1,A2	Limits and methods of measurement of radio disturbance characteristics of information technology equipment.
EN 61000-4-2/3	Electromagnetic compatibility
EN 301 489-1	ERM and EMC standard for radio equipment and services Part1
EN 301 489-7	Electro-magnetic Compatibility and Radio Spectrum Matters (ERM); Electro-magnetic Compatibility (EMC) Standard for Radio Equipment and Services; Part 7: Specific Conditions for Mobile and Portable Radio and Ancillary Equipment of Digital Cellular Radio Telecommunications Systems (GSM and DCS)
ETSI EN 301 489-17	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC)
FCC compliance	FCC ID: S61750
RoHS Compliance	Yes

Note 1: Storage and operation above 25°C may reduce battery life. Shelf life recommended not to exceed 12 months.
Note 2: Based on a measurement to a flat liquid target of size 30cm².
Note 3: The maximum spatial diversion of the ultrasonic signal will be < 30° from the central axis of the transducer.
Note 4: Suitable for use in tanks for the storage of water diesel fuel, kerosene, gas oil types A2,C1,C2 and D as defined by BS2869.
Note 5: Based on activation within 1 year of the manufacturing date of the product, and device configuration for 4 ultrasonic measurements per day, 1 Wi-Fi connection per day from a location where the Wi-Fi coverage does not require retries, and a normal distribution over operating temp. range centered at +25°C.
Note 6: If used in an external environment, installer must apply self-amalgamating tape to the external antenna-SMA connector join to ensure it is weather proofed. The antenna gain characteristics should be < 6dBi to ensure FCC compliance.

GSM TANKALERT - INPROCLOUD

* Magnetic activation point or 'Hot- spot'

Ultrasonic level gauge – GSM / GPRS to web platform – app

Ultrasonic level gauge with integrated GSM modem with connection to the Inpro Cloud Web platform.

- Liquid level monitoring.
- For diesel, lubricants, water, waste oil, antifreeze...
- Optimize fuel distributor supply.
- Reading history features available for efficiency control.
- Remote configuration through Web platform.
- GPRS/SMS communication.
- Programmable alarms: Full alert, empty alert, spill alert.
- Easy to install.
- 2 years warranty.
- CE Compliance and RoHs Compliant.
- 24/7 monitoring: Ultrasonic measurements.

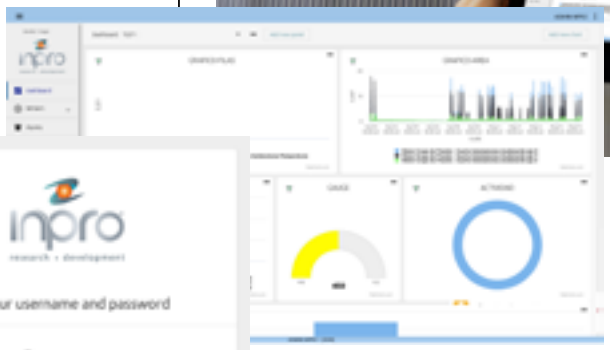
Solution for reservoirs with obstacles

Waveguide Mode Operation:
GSM Tankalert can be mounted and programmed at installation site with a 32 mm OD tubing (not included). This avoids any ultrasonic read error in the case of an obstacle is the inner tank (suction pipe, not regular tank walls, etc ...) avoids the correct ultrasonic function, as the reading is done inside this tube. An adapter is required.

Inpro Cloud Web Platform

- Code: 06110000200004: 5 years of access to Inprocloud *
- Code: 25000000000010: SIM card with 5 years of data usage (Limited to 500 Mb. In total) *
  *Both are included in Tankalert product.

1 or 5 years use forfait available.



GSM TANKALERT - INPROCLOUD

SPECIFICATIONS	
Characteristics	**Product Code: 06110000100009**
Dimensions	101mm(W) x 93mm(L) x 150mm(H) ±1mm
Weight	530g including 4 x C size batteries/290g without batteries
Housing Material	UV Stabilized Polypropylene (compatible with oil)
Operating Temperature	-10°C to +50°C (Note 1)
Storage Temperature	-30°C to +60°C (Note 1)
Altitude Range	<2Km above sea level
Environmental Protection	IP-67 Outdoors
Radio Frequency	Tri-Band GSM/GPRS (Quad band available)
Gauge Type	Ultrasonic
Ultrasonic Range	>12cm to <3m (Note 2) - (>12cm to < 8m long range version is available upon request)
Ultrasonic Signal Diversion	30° (Note 3)
Ultrasonic Resolution	±1cm (±0.5")
Accuracy	Typically ±2cm from 12cm to 4m
Material Compatibility	(Note 4)
Power Requirements	4 of Type C LR14 Alkaline 1.5V (fitted)
Battery Life	>5 Years (Note 5)
Humidity Range	15% - 95%
Color	Case: Grey – Adapter: Grey

ACCESSORIES	
SIM Card	Options available
Tank mounting options	Fit directly into 1 ¼", 1 ½" or 2" BSP existing tank connection

CONFORMITY	
Complies with Directive 2004/108/EC for Electromagnetic compatibility and the Low voltage directive 2006/95/EC for product safety and the R&TTE directive 1999/5/EC for radio.Compliance was demonstrated to the following specifications as listed in the official journal of the European Communities.	
EN 55022,A1,A2	Limits and methods of measurement of radio disturbance characteristics of information technology equipment.
EN 61000 -4-2/3	Electromagnetic compatibility.
EN 301 489 -1	ERM and EMC standard for radio equipment and services Part 1.
EN 301 489 -7	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Electromagnetic Compatibility (EMC) Standard for Radio Equipment and Services; Part 7: Specific Conditions for Mobile and Portable Radio and Ancillary Equipment of Digital Cellular Radio Telecommunications Systems (GSM and DCS).
EN 301 511	Global System for Mobile Communications (GSM); Harmonized EN for Mobile Stations in the GSM 900 and GSM 1800 Bands Covering Essential Requirements Under Article 3.2 of the R&TTE Directive (1999/5/EC).
ETSI EN 301 489 -17	Electromagnetic compatibility and Radio Spectrum Matters (ERM); Electromagnetic Compatibility (EMC).
RoHS Compliance	Yes.

Note 1: Storage and operation above 20°C may reduce battery life. Minimum distance measured is derated with temperatures <0°C.
Note 2: Based on a measurement to a flat liquid target of size 30cm².
Note 3: The maximum spatial diversion of the ultrasonic signal will be <30° from the central axis of the transducer.
Note 4: Suitable for use in tanks for the storage of water, diesel fuel, kerosene, gas oil types A2,C1,C2 y D as defined by BS2869.
Note 5: Based on 8 GPRS messages per month in standard configuration at a location with adequate GPRS coverage.

4G NB/LTE TANKALERT - INPROCLOUD

* Magnetic activation point or 'Hot- spot'

Ultrasonic level gauge – 4G to web platform – app

Ultrasonic level gauge with integrated 4G modem with connection to the Inpro Cloud Web platform.

- Liquid level monitoring.
- For diesel, lubricants, water, waste oil, antifreeze...
- Optimize fuel distributor supply.
- Reading history features available for efficiency control.
- Remote configuration through Web platform.
- 4G NB IoT/CAT M1communication.
- Programmable alarms: Full alert, empty alert, spill alert.
- Easy to install.
- 2 years warranty.
- CE Compliance and RoHs Compliant.
- 24/7 monitoring: Ultrasonic measurements.

Solution for reservoirs with obstacles

Waveguide Mode Operation:
GSM Tankalert can be mounted and programmed at installation site with a 32 mm OD tubing (not included). This avoids any ultrasonic read error in the case of an obstacle is the inner tank (suction pipe, not regular tank walls, etc ...) avoids the correct ultrasonic function, as the reading is done inside this tube. An adapter is required.

Inpro Cloud Web Platform

- Code: 06110000200004: 5 years of access to Inprocloud *
- Code: 25000000000010: SIM card with 5 years of data usage (Limited to 500 Mb. In total) *
  *Both are included in Tankalert product.

1 or 5 years use forfait available.

4G NB/LTE TANKALERT - INPROCLOUD

SPECIFICATIONS	
Characteristics	**Product Code: 06110000100811**
Dimensions	101mm(W) x 93mm(L) x 150mm(H) ±1mm
Weight	530g including 4 x C size batteries/290g without batteries
Housing Material	UV Stabilized Polypropylene (compatible with oil)
Operating Temperature	-10°C to +50°C (Note 1)
Storage Temperature	-30°C to +60°C (Note 1)
Altitude Range	<2Km above sea level
Environmental Protection	IP-67 Outdoors
Radio Frequency	**BG96:** LTE FDD (Cat M1 & Cat NB1): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 LTE TDD (Cat M1): B39 EGPRS: 850/900/1800/1900MHz **GNSS (GPS) for BG 96 Modem** GPS, GLONASS, BeiDou/Compass, Galileo, QZSS **BG95:** LTE FDD (Cat M1): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26 /B27/B28/B66/B85 LTE FDD (Cat NB2): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28 /B66/B71/B85 EGPRS: 850/900/1800/1900MHz **GNSS (GPS) for BG 96 Modem** GPS, GLONASS, BeiDou , Galileo, QZSS
Gauge Type	Ultrasonic
Ultrasonic Range	>12cm to <3m (Note 2)
Ultrasonic Signal Diversion	30° (Note 3)
Ultrasonic Resolution	±1cm (±0.5")
Accuracy	Typically ±2cm from 12cm to 4m
Material Compatibility	(Note 4)
Power Requirements	4 of Type C LR14 Alkaline 1.5V (fitted)
Battery Life	>5 Years (Note 5)
Humidity Range	15% - 95%
Color	Case: Grey – Adapter: Grey

ACCESSORIES	
SIM Card	Options available
Tank mounting options	Fit directly into 1 ¼", 1 ½" or 2" BSP existing tank connection

CONFORMITY	
EMC directive 2014/30/EU	The Electromagnetic Compatibility (EMC) Directive ensures that electrical and electronic equipment does not generate, or is not affected by, electromagnetic disturbance.
LVD directive 2014/35/EU	The Low Voltage Directive (LVD) ensures that electrical equipment within certain voltage limits provides a high level of protection for European citizens, and benefits fully from the Single Market.
RED directive 2014/53/EU	The Radio Equipment Directive ensures a Single Market for radio equipment by setting essential requirements for safety and health, electromagnetic compatibility, and the efficient use of the radio spectrum.
RoHS 2 Directive (2011/65/EU)	This Directive lays down rules on the restriction of the use of hazardous substances in electrical and electronic equipment (EEE) with a view to contributing to the protection of human health and the environment, including the environmentally sound recovery and disposal of waste EEE.
And Delegated Directive RoHS 3 (EU) 2015/863	In accordance with (EC) 1907/2006
REACH Compliance	Yes
CE compliance	The Electromagnetic Compatibility (EMC) Directive ensures that electrical and electronic equipment does not generate, or is not affected by, electromagnetic disturbance.

Note 1: Storage and operation above 20°C may reduce battery life. Minimum distance measured is derated with temperatures <0°C.
Note 2: Based on a measurement to a flat liquid target of size 30cm².
Note 3: The maximum spatial diversion of the ultrasonic signal will be <30° from the central axis of the transducer.
Note 4: Suitable for use in tanks for the storage of water, diesel fuel, kerosene, gas oil types A2,C1,C2 y D as defined by BS2869.
Note 5: Based on one data drop per day in standard configuration at a location with adequate CAT M1/NB IoT coverage.

INPRO IOT - GATE WAY MULTICOM

Gate way multicom

CODE: 06110000200001

Inpro IoT Multicom is a Gateway with wireless connectivity trough GSM/GPRS, NBIOT/LTE, and LoRa (optional), already preconfigured for remote facilities through to the Web/IoS/Android Inpro Cloud platform.

It allows the transmission of digital and analog signals to this platform, generating early alerts by email and App, as well as local action from the Inprocloud platform through its digital outputs.

Main Features:

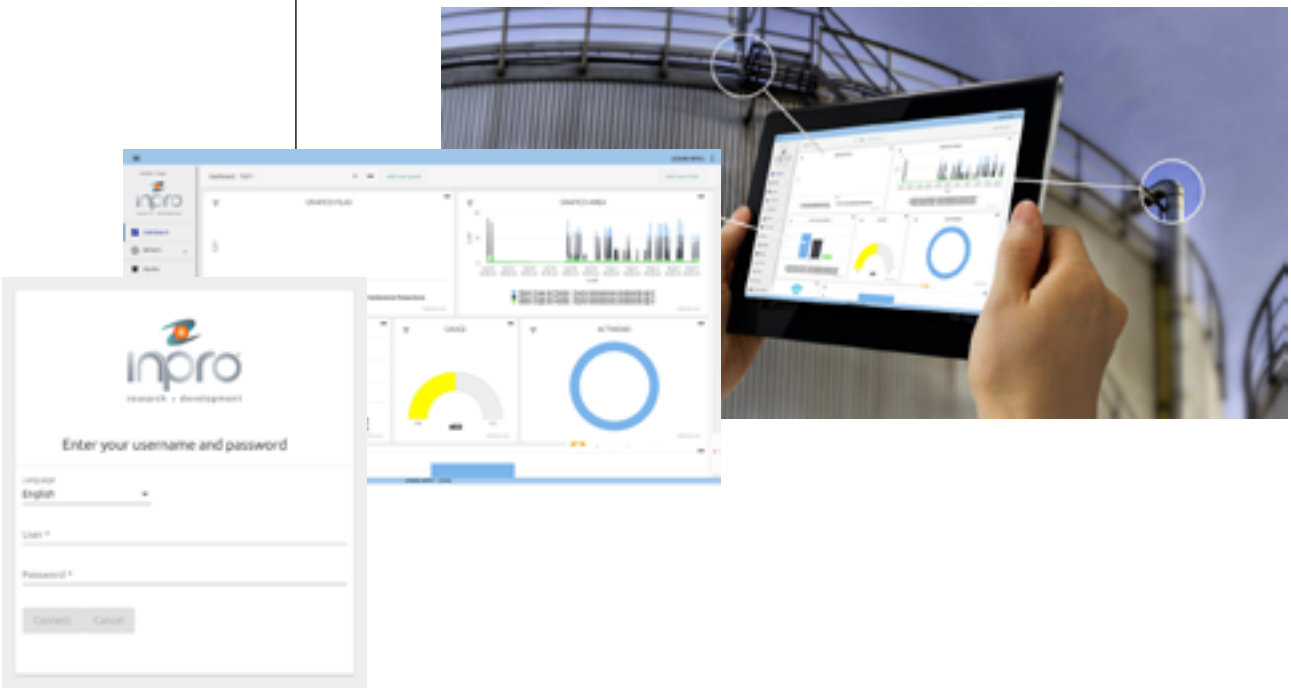
- LTE Cat M1/Cat NB1/E EGPRS / GSM communications
- Optional LoRa long-range communication
- Bluetooth BLE 5.0
- **2 digital** inputs configurable to **24, 12 and 5 Vdc standards**
- **1 digital input** AC **230 Vac**
- **2 analog inputs** 4-20 mA / 0-10 Vdc
- **2 digital outputs**
- Power port to sensors in 5 and 12 V
- GPS geolocation
- Optional power supply via photovoltaic plate
- Configurable communication and operational parameters

Communication to Inprocloud web platform

Access to readings and cloud sensory logs via:

- Web: Monitoring, control and setting.
- App: iOS and Android (read-only).

	CODE
5 years of access to Inprocloud	06110000200004
SIM card with 5 years of data usage (limited to 500 mb. in total)	25000000000010



INPRO IOT - GATE WAY MULTICOM

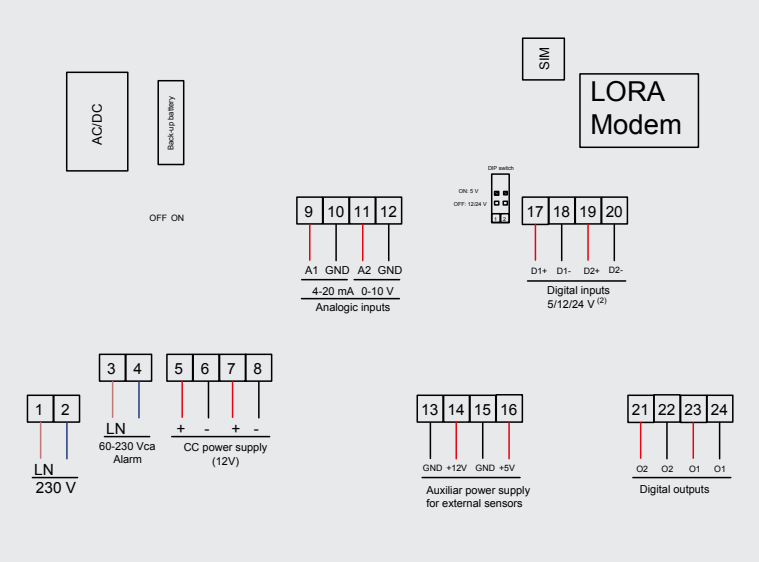
INPRO IOT MULTICOM SPECIFICATIONS CODE: 06110000300000	
COMMUNICATIONS	
Frequency Band	LTE Cat M1/Cat NB1/EGPRS
EGPRS	850/900/1800/1900 MHz
Cat M1/Cat NB1	B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25*/B26*/B28 B39 (Cat M1 only)
ISM Band	LoRa
LoRa	4433, 868 the 915 MHz
Protocol	MQTT
Location	GNSS -(GPS, Galileo, Glonass, Beidou)
Antenna	Interl. Optional: SMA connector for external antenna.

BLE COMMUNICATIONS (BLUETOOTH LOW ENERGY)	
BLE version	5.0
Frequency	2440 Mhz

COMPONENTS		
Digital Inputs	2 digital inputs: alarm / pulser. Configurable for 24V (industrial), 12V and 5V. 1 AC detector input 230 Vac	
Analog Inputs	2 analog inputs 4-20 mA / 0-10 Vdc	
Digital Outputs	1 contact-type digital output with inductive load switching capability up to 3A and 250 Vac and 10A and 250 VAC for resistive loads. 1 digital contact-type output with control signal switching capability up to 100 mA and 60 Vac.	
Sensors	Accelerometer, Lighting Temperature, Humidity Pressure, Magnetic	
Communication interface	I2C	
Sensors Power supply	+5 Vdc maximum current 350 mA	+12 Vdc maximum current 150 mA
Power	90 – 260 Vac with backup battery. Power options of the equipment: External power supply: 12 VDC - Connection to photovoltaic power ssource.	

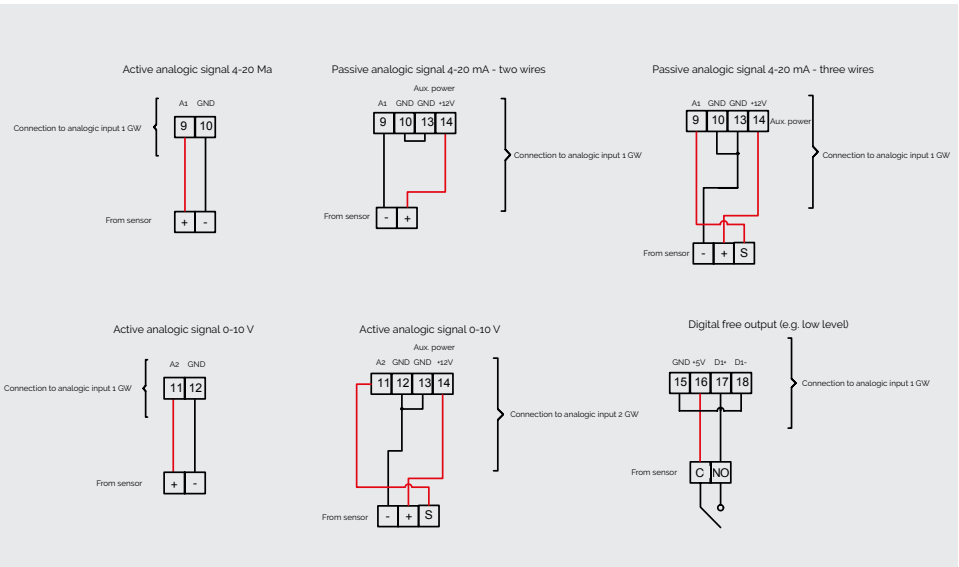
OPERATIONAL, MECHANICAL AND ENVIRONMENTAL	
Dimensions	145mm(W) x 105mm(L) x 45mm (H) ±1mm
Weight	110 g
Enclosure material	Abs plastic
Working temperature	-30 degrees Celsius to 85 degrees Celsius
Temp. storage	-40 degrees Celsius to 70 degrees Celsius
Moisture	0% - 100%
Degree of protection	IP-65

Application examples - connection possibilities



Power supply options:
230 VCA
12 VCC
Back-up (grid failure)
(1) Values set at factory:
Analogic input. 1: 4–20 mA

Analogic input. 2: 0–10 V
(1) Values set at factory:
Digital input. 1: 5 V
Digital input. 2: 12 or 24 V (adjustable)



ON/OFF type of signal
ON means low level (remote alarm option)
OFF means normal level

INPRO PACK FOR REMOTE MAINTENANCE

IoT Remote maintenance pack for IoT installer

Comprising:

- 1x Multicom Gateway (230 VAC)
- 1x SIM-data card 500 Mb (10 years)
- 5 years access to Inprocloud
- Connectivity t0 any digital or analog sensor
- Connectivity to many LoRa wan sensors

MODEL	TECHNICAL CHARACTERISTICS	CODE
Inpro SS-1A low pressure switch	0,3 bar -1/4'' F	22030000002201
Inpro SMMR 1 level switch probe	2"BSP, up to 1 mt length	23060001010010
Inpro EDM 40 IoT level gauge probe	Flexible type, 2"BSP, up to 2,5 mt length	23050010402999
Aquametro VZ4 OEM fuel meter pulser	1/8" , 0.1l/pulse output	089765
Inpro pressure sensor 0-10 bar	1/4" 0 to 10 bar	03120000314100
Inpro vacuum sensor -1 to 0 bar	1/4" -1 to 0 bar	03120000414010
Inpro LMW Leak detector	Wall version, 1,5 mt infrared probe	23080000000111
Vega sensor presion Vegabar 28	-1 to 10 bar	PP-222BB9
Vega sensor nivel ATEX Vegabar 28	-1 to 10 bar, ATEX (Zone 0)	PP-222 PB4
Vega sensor nivel radar Vegapuls C11	Measuring range up to 8 mt, 4-20 mA	RA-222 226
Sensor SMMR W -	Water in oil detection at tank (2")	23050010402596
Sensor SMMR W T-	Water detection+temperature monitoring (2")	23050010402598

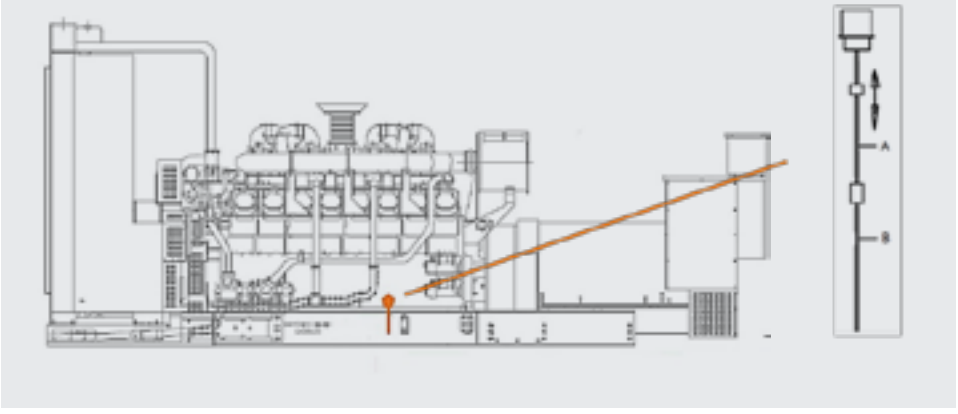
ECR 25 – ECR 50 ADJUSTABLE LEVEL SWITCH

Adjustable level switch and float switch magnetoresistive principle

- Shows on its display the contents of a tank in liters or percentages. Suitable for almost all oils, liquids or fluids. Up to 60°C.
- With a basic default setting for 2 relay outputs, installation is extremely easy and flexible.
- The probe height is adjustable to the exact tank height.
- Relay switching point adjustable
- The display is OFF in Eco mode unless an alarm threshold is exceeded (or a button is pressed).
- Standard housing 96 x 48 mm (1/8 DIN) for panel mounting.
- Standard connector
  - For ECR25 = 1"
  - For ECR50 = 1 1/2"
- Available with 1 1/4", 1 1/2" and 2" threaded adapters

ECR: COMPONENTS AND FINISHES	ART. NO.
ECR % switch box 18 to 265 Vac/dc.	03050020409XXX
ECR % or l switch box with 4 relays, 18 to 265 Vac/dc.	03050020409099
Stainless steel AISI-316 probe, adjustable up to 250 mm	23050010402590
Stainless steel AISI-316 probe, adjustable up to 500 mm	23050010402090
Polyester cabinet 300x250x140	23070000002012
Analoge GSM SIGNAL TRANSMISSION to the Mobiltelefon	06110000200125
GSM Mini Digital 1 Alarm Transmitter to Mobile Phone	02050000000199

Application example

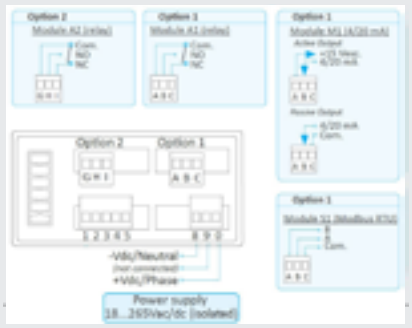


2 MEASUREMENT OPTIONS TO CHOOSE FROM

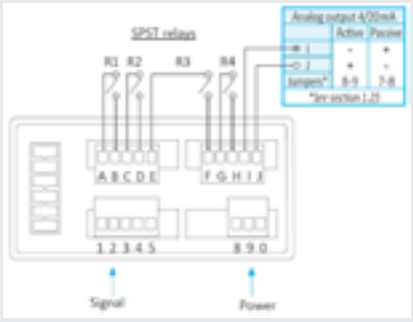
linear value % (1, 2..,100%)

% or l. Non-rectangular tank setting
* available only on 4-relay version .

Schematic ECR 2 Relay



Schematic ECR 4 Relay



Technical Specifications

ECR Display	ECR Probe
Protection rate: IP 65	Probe head connection: 1" or 1/2" BSP
Power consumption (display and probe) <3W	Ingress Protection: IP 65
Standard power supply: 18-265 Vac/dc	Size (mm): 450 x 100 x 80 mm (ECR 25 1" BSP)
Optional outputs: 2 relays (standard) and 4 relays (optional)	750 x 100 x 80 mm (ECR 50 1 1/2" BSP)
Operation Temperature: 0º to 50ºC	Other optional connection threads: 11/4", 11/2" & 2"
Material: PC-ABS	Max temperature: 60ºC
	Standard probe: AISI-316 stainless steel
Conformity declarations and standards: Electromagnetic compatibility directive 2014/30/EU, Low voltage directive 2014/35/EU, ROHS directive 2011/65/EU Electromagnetic compatibility: EN-61326-1 - Security rules EN-61010-1	

This is a product suitable for projects.
See all Inpro project references here

LEVEL SWITCH SMMR
WITH SPECIAL FLOAT FOR WATER DETECTION

The SMMR level switches are custom-built to each customer's particular needs in size and operation, allowing automated control of the filling and emptying of one or more tanks.

This system work with fluids such as gasoline, oil, water, milk, etc.

This panel controls can activate or control pumps, solenoid valves, optical and acoustic alarms.

With an extra special float added, the system will be able to inform about water presence into the oil tank.

Models:

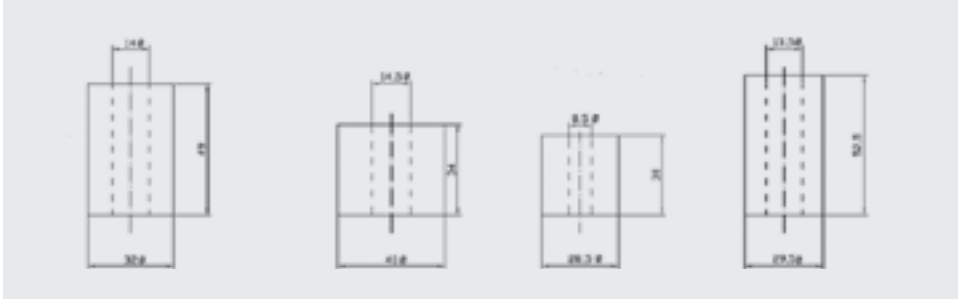
- SMMR 1: Operations of safety maximum and minimum.
- SMMR 2: With two voltage-free relays.
- SMMR 3: With three voltage-free relays.

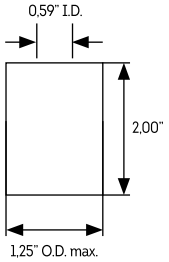
SMMR CONTROL BOX	SMMR PROBE
Code: 23060002010010 (SMMR 1)	Code: 23060001010010 (SMMR 1)
Power: 100 / 230 Vca 50/60 Hz (12/24/48 Vcc/Vca under request)	Power: 12 to 24 Vcc / Vca 50/60 Hz 230 Vca available under request
Free voltage relay output (1 to 4, depending on model)	Max. intensity: 1 mA a 500 mA
Max. power (W max.): 2,75 W	Max. power (W max.): 12 VA
Metal enclosure, IP 20 rated, (other enclosures available)	IP-65 for head and probe assembly Probe tube material: Stainless steel AISI 304 (316 Ti / Li available under request)Float fixation stopper: AISI 316 stainless steel
Size: 155x110x80 mm:	Tube diameter: 13 mm (8mm available under request)
Operation temp.: -10 ºC to +50ºC	Operation temp.: -10 ºC to +90ºC -10 ºC a 125 ºC available optional
1 contact relay: 5 Vcc coil Max. int. contact 5 A 250 Vca	Connection: 2" BSP brass (available in NPT bronze). Other available alternatives: 1-1/2", 1-1/4", 1", flanged, stainless steel,...)
2 contact relay: 5 Vcc coil Max. int. contact 8 A 250 Vca	Contact types (TBD): N/C, N/O, switch contact

Models:

STANDARD VERSIONS, INCLUDING	SMMR 1:	SMMR 2	SMMR 3	SMMR 4
Probe up to 1 mt. length, butyl float, 2"thread connector to tank	one voltage-free relay Safety max.& min. level control.	two voltage-free relays	three voltage-free relays	four voltage-free relays
Standard Version (rigid probe)	23060000010010	23060000020010	23060000030010	23060000040010
Version with flexible probe	23060000010012	23060000020012	23060000030011	23060000041211
EeXd version	23060000010012	23060000020012	23060000030012	23060000040012
Extra length of 20 cm for SMMR probe	23060009010010			
SMMR 2 -W for water on diesel detection	23050010402598			
E Type float for water on diesel detection	00230004125295			

Flow types:
Water detection (SG=0,95)





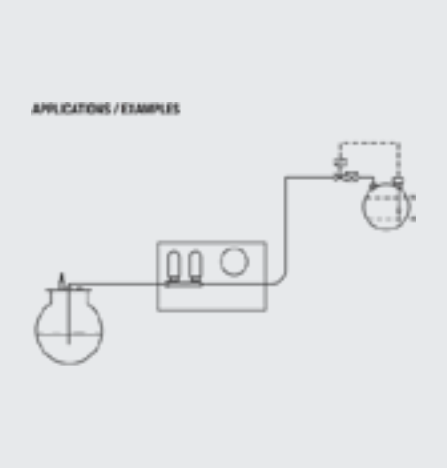
LEVEL SWITCH SMMR
WITH SPECIAL FLOAT FOR WATER DETECTION

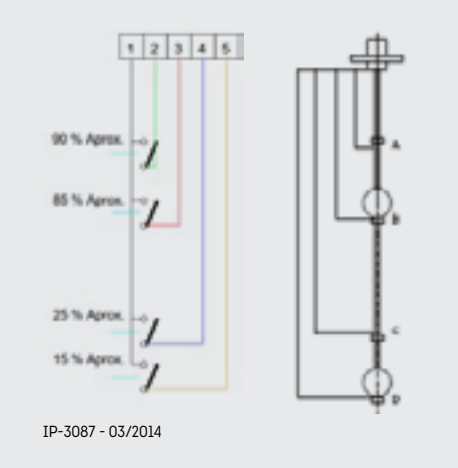
Distance limits for switching point:

- From probe connection to maximum (HH) contact: 50 mm (for other please consult)
- Between contacts 80 mm (for other please consult)
- From end of probe to maximum lower (LL) contact 50 mm (for other please consult)

Filling of a tank by means of the level switch

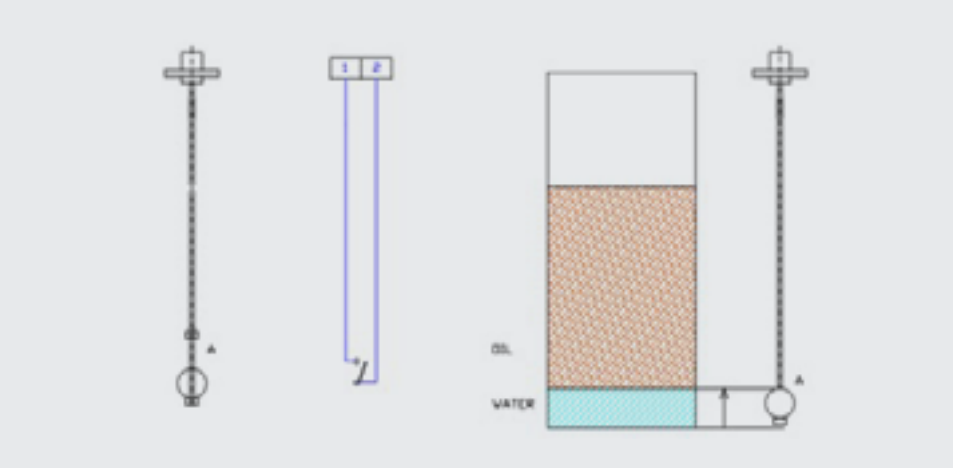
As the liquid level drops to the minimum level, the electrovalve opens, triggering the in activation of the pressure system, which fills the tank until the liquid level reaches the maximun level, which then closes the electrovalve.





Remote control of various locations of the tank

When the tanks level increases or decreases, the microswitches begin closing successively, sending signals to the controller to make the appropriate adjustments.



Detecting water entrance in an oil tank

When water level rises to point A, contact between connection 1 and 2 closes, sending a signal to the panel. The position of A is adjusted according to customer needs.

This is a product suitable for projects.
See all Inpro project references here

EDM-40 REMOTE LEVEL GAUGE AND CONTROL

- Shows on his display the content of a tank in liters or percentage. Valid for almost any oil, liquid or fluid. Till 125ºC.
- It can be completely configured depending on the installation needs.
- The installation is extremely simple, because all settings are adjusted from manufacturing.
- His expansion slots adapts it to each installation needs.
- Standard housing (DIN 43700) 96 x 43 x 100 ready for panel built-in mounting.
- Flexible probe available in, 1", 11/2" and 2" thread adapters.

Technical specifications from display and control unit

- Protection rate: IP 67
- Power consumption (display + probe) <30 Va.
- Standard Electric supply: 230/115 Vac
- Optional versions: 48/24 Vcc - 18/48 Vcc
- Temperature range of function: 0º a 50ºC
- Electromagnetic compatibility: EN 61000-6-2, EN 61000-6-3
- Security Norms: EN 61010-1
- Material: PC-ABS
- Measures (mm): 96 x 43 x 100 (DIN 43700)
- Certifications: CE, UR, CSA

Technical specifications - Probe

- Aluminium isolating head: 2"
- Isolation rate: IP 65
- Other optional connecting thread: 1", 11/4" and 11/2"
- Standard probe: flexible (Nylon)
- Max temperature in flexible standard probe: 40ºC
- Optional Inox (rigid): stainless steel AISI-316
- Max temperature with stainless steel Probe: 125ºC

EDM- 40	ART. NR.
EDM-40 control unit (continuous monitoring)	23050020409000
1 Relay Module	02050000000010
2 Relay Module	02050000000020
4 Relay Module	02050000000040
Analog output module 0-10 V / 4-20 mA	02050000000100
EDM-40 flexible probe till 2,5 m, 2" Thread connection, submerged sensor	23050010402590
DM-40 rigid probe till 2,5 m, 2" Thread connection, submerged sensor	23050010402090
DM-40 ,1/2" Thread connection, submerged sensor	23050010405490
SMS digital transmiter VIA GSM (VERy low LEVEL alarm)	22050000001199

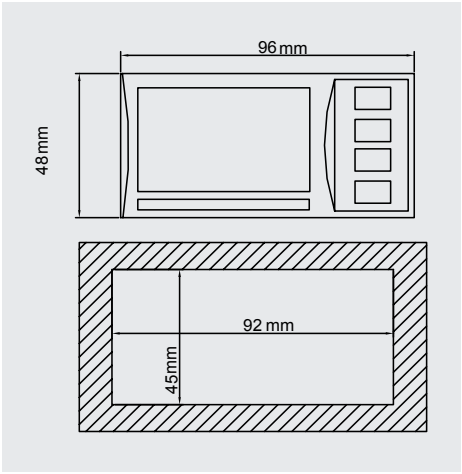
2 displaying possibilities to choose:

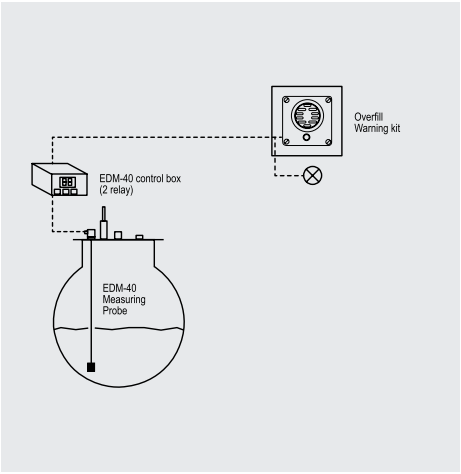
% (1, 2.., 100 %)

Litres

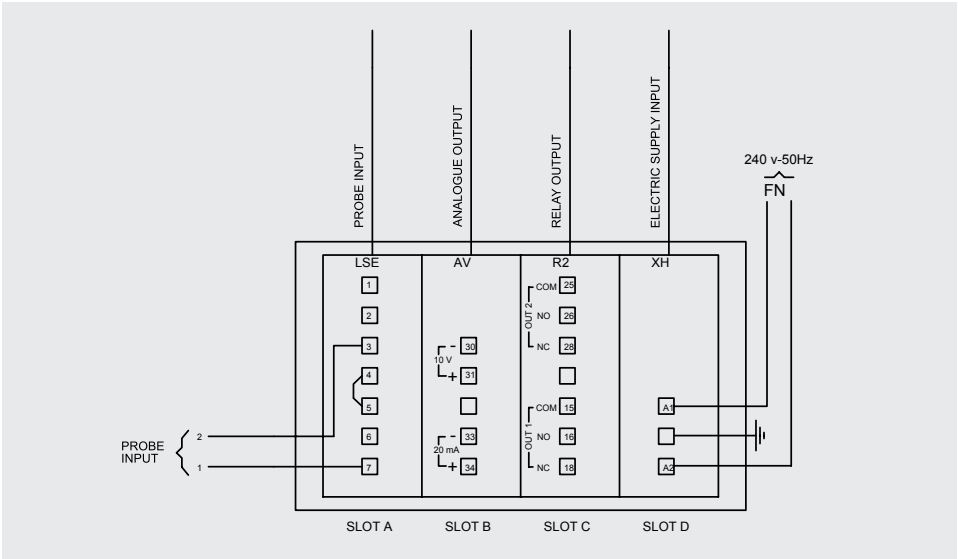
EDM-40 REMOTE LEVEL GAUGE AND CONTROL

How it is applied Size (mm)

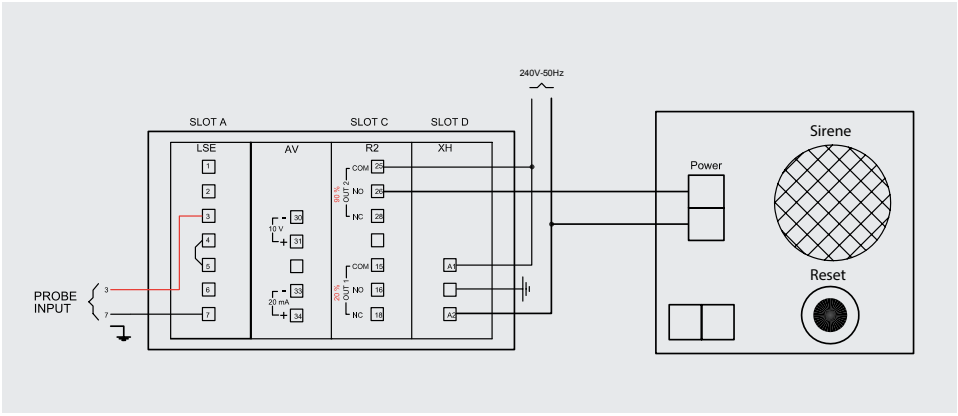




Wiring diagram for analog and relay connections



Wiring diagram for overfill control system kit

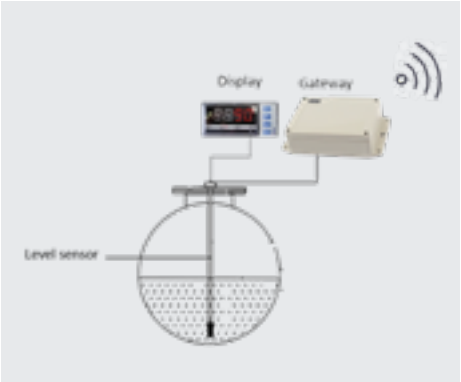


This is a product suitable for projects.
See all Inpro project references here

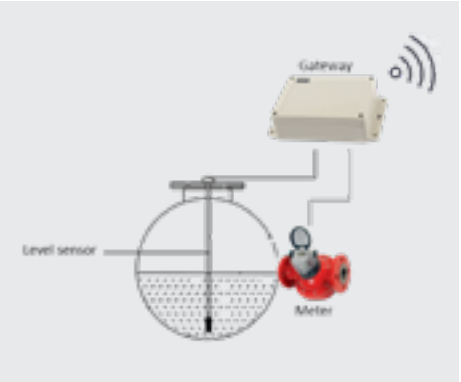
INPRO FLUID PACKS

Local and remote continuous tank level monitoring most typical equipment configurations.

Kit IOT fluid #00

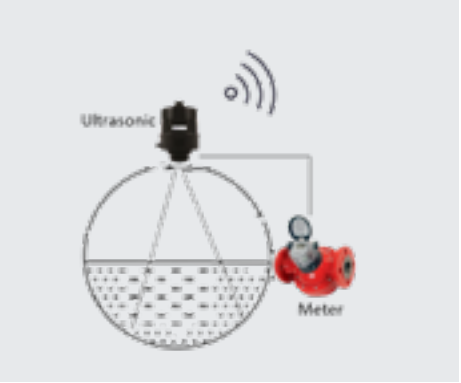


Kit IOT fluid #1



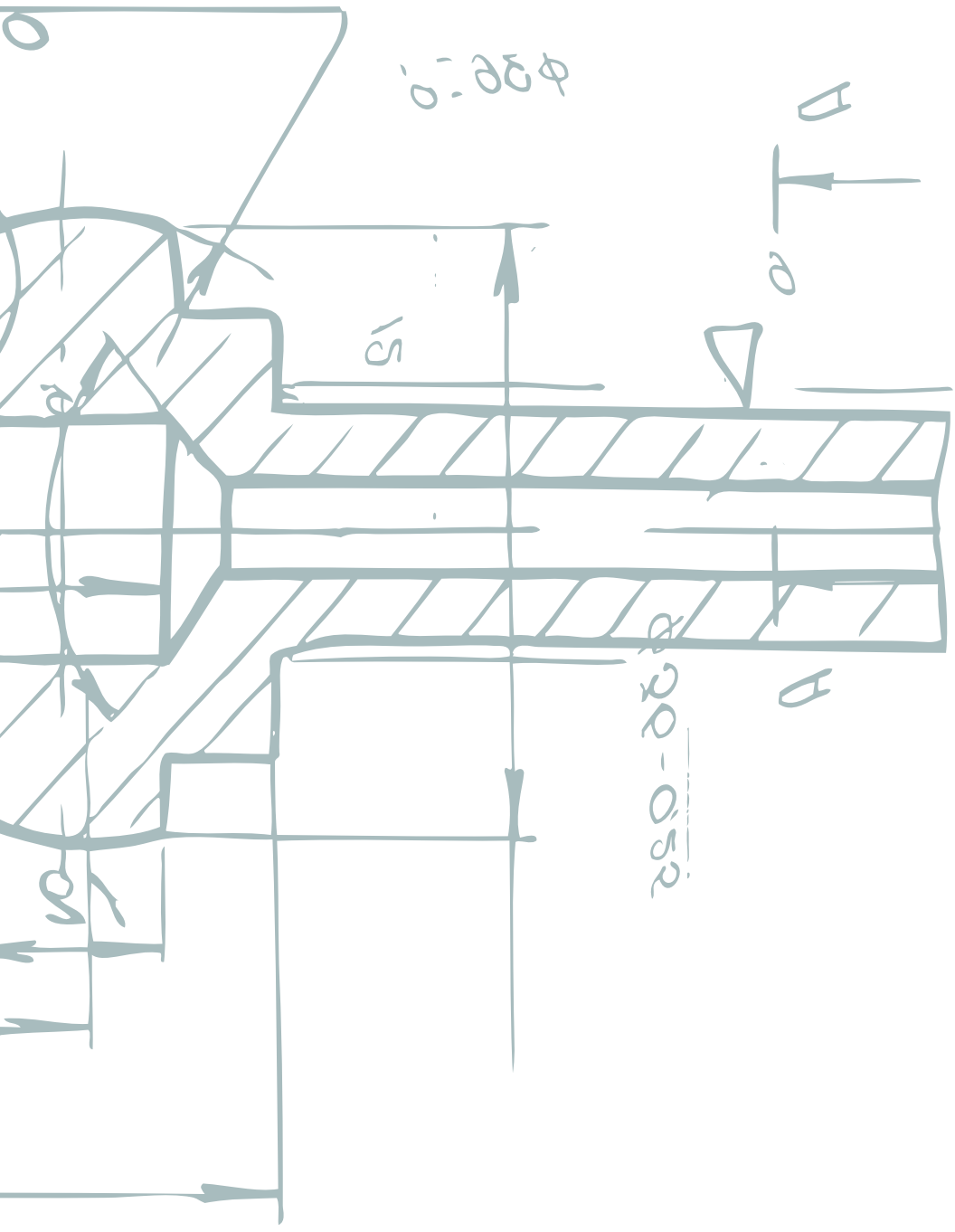
Kit IOT fluid #2

Kit IOT fluid #3



MODEL	INHALT	ARTIKEL NR.
Inpro Fluid Kit 00	EDM 40 level gauge complete with probe, 2 relay outputs mounted in a weatherproof cabinet in reinforced polyester Mutlicom gateway with data SIM card 500 Mb and 5 years access to Inprocloud included	23080000000004
Inpro Fluid Kit 01	Remote monitoring only: Fluid kit 00 without EDM display, and additionally with VZ04 OEM flow meter pulser	23080000000001
Inpro Fluid Kit 02	Local and remote monitoring: Fluid kit 02 additionally with EDM display, and VZ04 with pulser instead OEM model only pulser	23080000000002
Inpro Fluid Kit 03	For remote monitoring (battery powered): GSM Tankalert with pulser input and VZ04 flow meter pulser	23080000000003
Inpro GP / RL Kit	Inproconnected Smart Kit GateWay+ Inprocloud Low pressure & motor trip alarm to Inprocloud	06110000200125
Inpro GPS Kit	Inproconnected Smart Kit GateWay+ Inprocloud Low level fault & power fault / leak remote warning	06110000200125
Inpro ATEX alarm kit	Inproconnected Smart Kit GateWay+ Inprocloud Low pressure & motor trip alarm to Inprocloud, mounted in polyester enclosure, c/w 2x galvanic isolating switches	26110000999000
SMS Alarm Kit	GSM SMS transmitter with one N/O and one N/C digital inputs. SIM card not included	22050000001199
Technical support	Remote technical support (cost per hour)	23080000000005

RFQ QUESTIONNAIRES



OIL SUPPLY SYSTEM QUESTIONNAIRE

Dear Customer,
Please fill and send us the next questionnaire, very helpful in the selection for the best oil transfer solution for your installation.
Please add also a sketch if possible.

Is this System: **For a new installation** **Yes / No**
Renovation of an existing installation **Yes / No**

	TANK TYPE	PCS.	LITRE	Ø OR HEIGHT
TANK INSTALLATION	Underground tank			
	One free standing and/or lying tank			
	Special welded tank			
	Other?			
BURNER	Total burner / appliances nr	Pcs.	max	kg/h
	Total burner power output	kW		
	All the burners in the same room?		Yes/No	
	Different places of assembly		Yes/No	
PIPING	Piping from the tank to the appliance	Heigh Length		M M
	Piping - if existing –	Inside Diameter		MM
	Piping under ground (not observable)		Yes/No	
	Piping visible		Yes/No	
	Piping partially not visible		Yes/No	
	Piping with frequent up & down gradients		Yes/No	

LENGTH OF THE PIPE RUN	Suction side	Suction lift Tank bottom-Pump	M
		Suction length Tank bottom-Pump	M
	Drive side	Pressure lift Pump-Burner	M
		Pressure length Pump-Burner	M
POWER SUPPLY	Three Phase	OUTPUT Free relay	Yes/No
	Single Phase		

Pump system type (your advice) ?
- Single pump ..... Models: N
- Duplex Pump with automatic switch over ..... Models: GE, ZW

Need catalogue? **Yes/No**
Bid text needed? **Yes/No**
Date: **Sender:**

System: Ring Main System..... Models: RL
Dead Leg System
Pressure accumulating System..... Models: GP, DWA
Suction Pumps ..... Models: LA-SF, GPS
Main tank to daily service tank transfer..... Models: FP

(signature)

Medium: If medium is not standard diesel or 28 sec kerosene, please detail or join medium datasheet.
Other: .....

GP / GPS DESIGN QUESTIONNAIRE

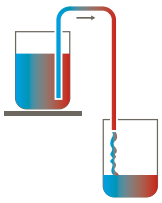
Data acquisition sheet for the sizing of a pumping system to one or several oil burners

Comp:	Project Reference:
Contact:	Street:
Street:	Postcode, City
Postcode, City	
Telephone:	
Email:	

Suction unit (GP)

Burner

Pressure Unit (GP)



Pump below oil level at main tank

☐ Yes

☐ No

Oil Burner(s)

1. Max Power: ..... kw
2. Max Power: ..... kw
3. Max Power: ..... kw

Oil

Maximum height of tank bottom to the highest point of the line between tank and pump

Height: ..... m

Maximum suction line lenght of the

Length: ..... m

Maximum difference in height between the pump and the furthest burner

Height: ..... m

Maximum distance from the aggregate to the

Length: ..... m

Sketch / Notes:

Pipe diameter if available: DN.....

Power supply available:

230 V ☐

400 V ☐

☐ Single pump unit

☐ Double pump unit

Download the Inpro calculation questionnaire sheet on your mobile phone

TANK MONITORING DATA COLLECTION QUESTIONNAIRE

1.) TYPE OF SYSTEM

		MODEL
☐	(%) Level Gauging + Manoeuvres/relays	☐ EDM 40
☐	(%) Only Manoeuvres/relays	☐ SMMR
☐	Sub base tank / Belly Tank level Switch	☐ ECR
☐	Spare probe	☐ _____

2.) TYPE OF LIQUID

a) Type of liquid:

- ☐ Diesel
- ☐ Others: _____ Density: _____

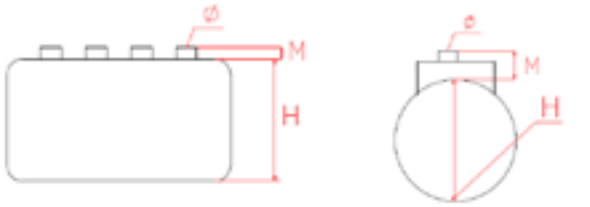
c) Material

- ☐ Rigid stainless steel:
- ☐ Flexible in PVC

b) Working temperature (ºC):

- ☐ Ambient Temp.:
- ☐ Others: _____
- ☐ Atex System Requier:

3.) TANK



☐ Rectangular..... ☐ Cylindrical (lying):.....

SIZE:

Volume =..... litre
H =..... cm
M =..... cm
ø =..... inches

4.) ALARM SIGNALS or RELAY CONTACT

Please indicate in each box, the kind of manoeuvre to do in each probe point:

[A] Visual alarm above this point (i.e. High high level)
[B] Visual alarm above this point (i.e. Low low level)
[C] Voltage free contact
[D] Pump stop (or any device)
[D] Pump start (or any device)
[I] Additional acoustic or visual signal. (i.e. Inpro 96 dB a Kit with reset (*)
[J] SMS message
[K] .....

*(*) I order also Inpro 95 dB alarm Kit with reset: ☐

Analog connection for PC

0-20 mA ☐

or

4-20 mA ☐

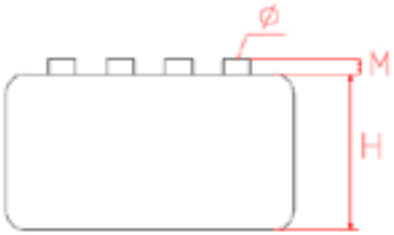
Download the Inpro calculation questionnaire sheet on your mobile phone

INPROCLOUD QUESTIONNAIRE

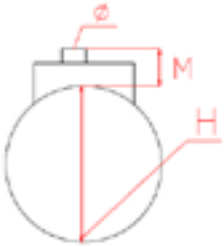
☐ **WIFI** TANKALERT
☐ **GSM** TANKALERT
☐ **MULTICOM**

Address & Tank

☐ Rectangular



☐ Cylindrical (lying):...



SIZE:
Volume =..... litre
H =..... cm
M =..... cm
ø =..... inches

Email: .....
(for alarm messages HH/LL, e.g. example 90% - 20%)

Tank Address:
Street:.....
Postal code:.....
City / Town:.....

Inprocloud end customer access data:

Name:.....
VAT Nr:.....

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