

Mobile Trolleys

Mobile Filtration Units

Available with a flow rate up to 50 L/min



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System Cleaning Requirements

Typical Hydraulic Applications	Cleanliness Class Required		Outlet Filter Required	
Component Types	ISO4406	NAS1638	Type	Element Types
High-precision and laboratory servo-systems	14/12/9	3	3 Micron absolute	A03
Robotic and servo-systems	17/15/11	6	3-6 Micron absolute	A03, A06
Very sensitive high-reliability systems	18/16/13	7	10-12 Micron absolute	A10, A16
Sensitive, reliable systems	20/18/14	9	12-15 Micron absolute	A10, A16
General equipment	21/19/16	10	15-25 Micron absolute	A16, A25
Low-pressure equipment not in continuous use	23/21/18	12	25-40 Micron absolute	A25

Approximate System Cleaning Times

GRF 100								
Reservoir Capacity (litres)	100	200						
Cleaning time (mins/hours)	1hr	2hrs						
GRF 261								
Reservoir Capacity (litres)	100	200	400					
Cleaning time (mins/hours)	30mins	45mins	1hr 30mins					
GRF / GRM 302								
Reservoir Capacity (litres)	100	200	400	600				
Cleaning time (mins/hours)	20mins	40mins	1hr 20mins	2hrs				
GRF / GRM 503								
Reservoir Capacity (litres)		200	400	600	800	1000	1200	1500
Cleaning time (mins/hours)		30mins	45mins	1hr	1hr 15mins	2hrs	3hrs 30mins	4hrs 30mins

Clean-up rates based on an initial contamination rating of ISO 4406 23/21/19 (NAS 1638 Class 12) to 17/15/12 (NAS Class 6) Using MTD - Please note more than one element might be required

Filter Options

Type	Description	Nominal Water Removal Spin-on CW100	Nominal Water Removal Spin-on CW150	Nominal and Absolute Spin-on CS100	Nominal and Absolute Spin-on CS150	Absolute LMP Length 5 Element CU4005	Absolute LMP Length 1 Element CU2101
GRF100	10 Lpm hand held	•	•	•	•		
GRF261	26 Lpm hand held	•	•	•	•		
GRF/GRM302	30 Lpm sack truck	•	•	•	•		
GRF/GRM302 (L4305)	30 Lpm high DHC					•	
GRF/GRM302 (SP L4305)	30 Lpm high DHC with additional spin-ons	•	•	•	•	•	
GRF/GRM302 SW	30 Lpm sack truck - water glycol version						•
GRF/GRM503 (L4305)	50 Lpm high DHC					•	
FTU111522	FTU 80l tank, spin on and high DHC	•	•	•	•	•	

MONITOR, CLEAN, PROTECT

- **PROTECTS COMPLEX SYSTEMS AND COMPONENTS**
- **REDUCES COSTS AND DOWNTIME**
- **CRITICAL EARLY WARNING SYSTEM (GRM/FTU)**
- **ENABLES LONGER SERVICE INTERVALS**
- **SPEEDS UP CLEANING TIMES**
- **COMPACT AND PORTABLE**



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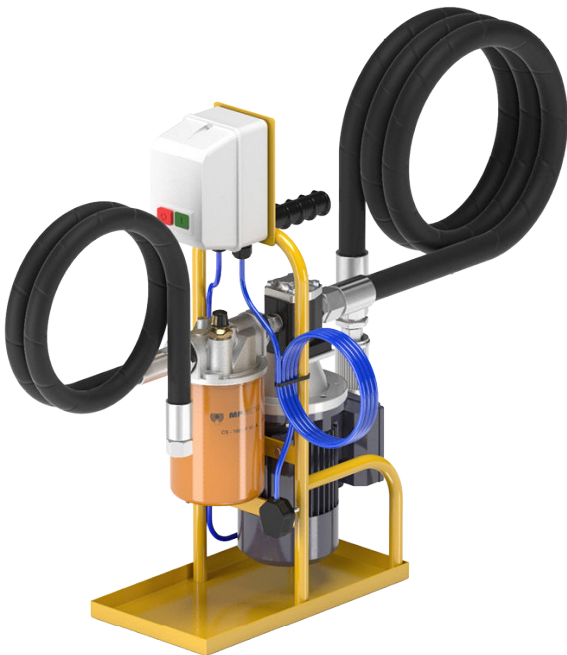
Mobile Filtration Unit

Mobile Filtration Unit
Maximum working pressure up to 5 bar
Flow rate up to 10 L/min

A highly portable oil transfer/filtration unit, designed for both filling/transferring hydraulic oils from containers to the hydraulic tank as well as filtering and cleaning hydraulic systems.

The unit utilises Spin-on standard cartridge (supplied as an option), available in two lengths, thus increasing the dirt-holding capacity and lowering the pressure drop of the unit.

Light and compact, the GRF 100 supports a wide range of medias and micron ratings to suit multiple applications.



Available features:

- 10 L/min Flow rate
- Continuous operation at 5 bar
- Light and portable
- Compact design
- Quick and easy to set up
- High-efficiency filtration
- Easy to maintain
- Comes with MPS100 filter head filters as standard
- Water removal (optional element)
- Compatible with mineral oil
- Electric control box
- Visual indicator
- Nitrile seals

Applications:

- Filling/transferring hydraulic oils from containers to the hydraulic tank
- Filtering and cleaning hydraulic systems.

SPECIFICATION

Pump	Gear Pump
Electric Motor	0.37 Kw 110/230 Volt single phase electric motor
Flow Rate	10 L/min
Max Operating Pressure	5 bar
Viscosity Range	Min. operation 10 cSt Max. operation 120 cSt
Inlet Filter	250 µm metal mesh strainer
Outlet Filter	1/3/6/10/25 µm β>1000 flow through the element Out/In
Bypass Indicator set at 1.75bar	Visual clogging indicator gauge - pop-up manual reset.
Fluid Temperature	From 0° to +80°C
Ambient Temperature	From 0° to +45°C
Protection Class	IP 55
Seal	NBR
Fluid Compatibility	Mineral oil
Suction / pressure hose	SAE100R4 1" swaged female 2000mm hose SAE100R4 3/4" swaged female 2000mm hose
Dimensions	Weight: 18kg Dimensions: 697mm (H); 400mm (D); 215mm(W)
Equipment	N/A

How to order

GRF 100

Order example	GRF	10	0	1	M90	S
1. Model GRF= GRF Mobile Filtration Trolley						
2. Flow 10= 10 L/min						
3. Electric Power 0= 0.37kW						
4. Electric Motor 1= 110v single phase 2= 240v single phase						
5. Replacement Suction Element M90= 250um suction strainer						
6. Filtration S= No filter fitted, to be ordered separately						

Spin-on Filters

Filter element - Standard length: Inorganic microfiber element

CS 100 A01 A P01	1 µm absolute
CS 100 A03 A P01	3 µm absolute
CS 100 A06 A P01	6 µm absolute
CS 100 A10 A P01	10 µm absolute
CS 100 A25 A P01	25 µm absolute

Filter element - Standard length: Wire-mesh element

CS 100 M25 A P01	25 µm
CS 100 M60 A P01	60 µm

Filter element - Extended length: Inorganic microfiber element

CS 150 A01 A P01	1 µm absolute
CS 150 A03 A P01	3 µm absolute
CS 150 A06 A P01	6 µm absolute
CS 150 A10 A P01	10 µm absolute
CS 150 A25 A P01	25 µm absolute

Filter element - Extended length: Wire-mesh element

CS 150 M25 A P01	25 µm
CS 150 M60 A P01	60 µm

Mobile Filtration Unit

Mobile Filtration Unit
Maximum working pressure up to 5 bar
Flow rate up to 26 L/min

GRF 261 mobile filtration units have been created for filling and refilling filtered hydraulic fluids and lubrication tanks.

The filter unit connected off-line to the tank (recommended maximum volume 400L), can be used as a support to the filtration plant on start-up for fast flushing action, or as additional filtration for systems with a high incidence of contamination.

Light and compact, the GRF 261 supports a wide range of medias and micron ratings to suit multiple applications.

Available features:

- 26 L/min Flow rate
- Continuous operation at 5 bar
- Light and portable
- Fast clean-up times
- Compact design
- Quick and easy to set up
- High-efficiency filtration
- Easy to maintain
- Comes with MPS100 filter head filters as standard
- Water removal (optional element)
- Compatible with mineral oil
- Electric control box
- Visual indicator
- Nitrile seals

Applications:

- Filling/transferring hydraulic oils from containers to the hydraulic tank
- Filtering and cleaning hydraulic systems.



SPECIFICATION

Pump	Gear Pump
Electric Motor	0.55 Kw 110/230 Volt single phase electric motor
Flow Rate	26 L/min
Max Operating Pressure	5 bar
Viscosity Range	Min. operation 10 cSt Max. operation 120 cSt
Inlet Filter	250 µm metal mesh strainer
Outlet Filter	1/3/6/10/25 µm β>1000 flow through the element Out/In
Bypass Indicator set at 1.75bar	Visual clogging indicator gauge pop-up, manual reset.
Fluid Temperature	From 0° to +80°C
Ambient Temperature	From 0° to +45°C
Protection Class	IP 55
Seal	NBR
Fluid Compatibility	Mineral oil
Suction / Pressure hose	SAE100R4 1" swaged female 2000mm hose SAE100R4 3/4" swaged female 2000mm hose
Dimensions	Weight: 18kg Dimensions: 697mm (H); 400mm (D); 215mm(W)
Equipment	N/A

How to order

GRF 261

Order example	GRF	26	1	1	M250	S
1. Model GRF= GRF Mobile Filtration Trolley						
2. Flow 26= 26 L/min						
3. Electric Power 1= 0.50kW						
4. Electric Motor 1= 110v single phase 2= 240v single phase						
5. Replacement Suction Element M250= 250um suction strainer						
6. Filtration S= No filter fitted, to be ordered seperately						

Spin-on Filters

Filter element - Standard length: Inorganic microfiber element

CS 100 A01 A P01	1 µm absolute
CS 100 A03 A P01	3 µm absolute
CS 100 A06 A P01	6 µm absolute
CS 100 A10 A P01	10 µm absolute
CS 100 A25 A P01	25 µm absolute

Filter element - Standard length: Wire-mesh element

CS 100 M25 A P01	25 µm
CS 100 M60 A P01	60 µm

Filter element - Extended length: Inorganic microfiber element

CS 150 A01 A P01	1 µm absolute
CS 150 A03 A P01	3 µm absolute
CS 150 A06 A P01	6 µm absolute
CS 150 A10 A P01	10 µm absolute
CS 150 A25 A P01	25 µm absolute

Filter element - Extended length: Wire-mesh element

CS 150 M25 A P01	25 µm
CS 150 M60 A P01	60 µm

GRF 302 / GRM 302

Available with ICM 2.0 In-line Contamination Monitor

Mobile Filtration Unit

Mobile Filtration Unit

Maximum working pressure up to 5 bar

Flow rate up to 30 L/min

Compact and simple to use, the GRF and GRM302 mobile filtration units enable service teams to clean oil and hydraulic fluids quickly and easily - protecting complex components, machines and systems from particulate contamination.

GRF/GRM 302 units are ideal for filling and filtering hydraulic fluids and lubrication tanks.

The unit can be connected off-line to the tank (recommended max volume of 500 L), and can be used as a support to the filtration plant on start-up for fast flushing or as an additional filtration system for highly contaminated systems.

Available features:

- 30 L/min Flow rate
- Continuous operation at 3.5 bar
- Compact size
- Comes with MPS100 filter as standard – optional LMP4305 filter
- Water removal (optional element)
- Compatible with mineral oil
- Electric control box
- Calibrated to relevant ISO standards (GRM only)
- Electric control box
- Visual electrical indicator
- Nitrile seals
- ICM included for real-time monitoring (GRM only)
- Data logging and storage of up to 4000 test results in memory (GRM only)

Applications:

- Filling and filtering hydraulic fluids and lubrication tanks.
- Filter unit can be connected off-line to the tank (recommended max volume 500 L), and can be used as a support to the filtration plant on start-up for fast flushing action - or as an additional filtration system for highly contaminated systems



SPECIFICATION

Pump	Gear Pump or Screw Pump (for diesel)
Electric Motor	0.75 Kw, 1400rpm, 110V/240V single phase, 415V three-phase
Flow Rate	30 L/min
Max Operating Pressure	3.5 bar
Viscosity Range	Maximum 150 cSt
Inlet Filter	100 mesh washable as standard
Outlet Filter	1/3/6/10/25 µm β>1000 flow through the element Out/In
Bypass Indicator set at 1.75bar	Rating 3.5 bar with bypass (LMP) 1.75 bar bypass (MPS) Visual/electrical indicator (on LMP) set at 2 bar
Fluid Temperature	From -10° to +80°C
Ambient Temperature	From 0° to +45 °C
Protection Class	IP 55
Seal	NBR
Fluid Compatibility	Mineral oil and diesel oil variants
Suction and hose	SAE100R4 1" swaged female 2000mm hose - available with lances
Dimensions	GRF - 75kg, 860mm (H); 560mm (D); 500mm(W) GRM - 80kg, 860mm (H); 560mm (D); 500mm (W)
Equipment	ICM 2.0 Version available (GRM Models)

How to order

GRF/GRM 302

Order example	GRF	30	2	1	M149	S
1. Model						
GRF= GRF Mobile Filtration Trolley						
GRM= GRM Mobile Filtration Trolley with ICM 2.0						
2. Flow						
30= 30 L/min						
3. Electric Power						
2= 0.75kW						
4. Electric Motor						
1= 110v single phase						
2= 240v single phase						
3= 415v 3 phase						
5. Replacement Suction Element						
M149= 173µm suction strainer						
6. Filtration						
S= No filter fitted, to be ordered seperately						

Spin-on Filters

Filter element - Standard length: Inorganic microfiber element

CS 100 A01 A P01	1 µm absolute
CS 100 A03 A P01	3 µm absolute
CS 100 A06 A P01	6 µm absolute
CS 100 A10 A P01	10 µm absolute
CS 100 A25 A P01	25 µm absolute

Filter element - Standard length: Wire-mesh element

CS 100 M25 A P01	25 µm
CS 100 M60 A P01	60 µm

Filter element - Extended length: Inorganic microfiber element

CS 150 A01 A P01	1 µm absolute
CS 150 A03 A P01	3 µm absolute
CS 150 A06 A P01	6 µm absolute
CS 150 A10 A P01	10 µm absolute
CS 150 A25 A P01	25 µm absolute

Filter element - Extended length: Wire-mesh element

CS 150 M25 A P01	25 µm
CS 150 M60 A P01	60 µm

GRF 503 / GRM 503

Available with ICM 2.0 In-line Contamination Monitor

Mobile Filtration Unit

Mobile Filtration Unit

Maximum working pressure up to 3.5 bar

Flow rate up to 50 L/min

With fast cleaning times and the option of adding a state of the art ICM 2.0 particle counter, the GRF and GRM 503 mobile filtration units enable service teams to clean oil and hydraulic fluids quickly and easily - protecting complex components, machines and systems from particulate contamination.

GRF/GRM 503 units are ideal for filling and filtering hydraulic fluids and lubrication tanks. The unit can be connected off-line to the tank (recommended max volume of 1000 L), and used as a support to the filtration plant on start-up for fast flushing or as an additional filtration system for highly contaminated systems.

Available features:

- 50 L/min Flow rate
- Continuous operation at 3.5 bar
- Portable
- Water removal (optional element)
- Quick and easy to set up
- Compatible with mineral oil
- Calibrated to relevant ISO standards (GRM only)
- Wide variety of communication protocols as standard
- Electric control box w/pressure safety switch
- Indicators: Outlet filter w/electric cut-out switch
- Nitrile seals
- ICM included for real-time monitoring (GRM only)
- Data logging and storage of up to 4000 test results in memory (GRM only)

Applications:

- Filling and filtering hydraulic fluids and lubrication tanks.
- Filter unit can be connected off-line to the tank (recommended max volume 1000 L), and can be used as a support to the filtration plant on start-up for fast flushing action - or as an additional filtration system for highly contaminated systems



SPECIFICATION

Pump	Gear Pump or Screw Pump (for diesel)
Electric Motor	1.1Kw, 1400rpm, 110V/240V single phase, 415V three-phase
Flow Rate	50 L/min
Max Operating Pressure	3.5 bar
Viscosity Range	Maximum 150 cSt
Inlet Filter	250 µm Y type strainer
Outlet Filter	3/6/10/16/25 µm β>1000 flow through the element Out/In
Bypass Indicator set at 1.75bar	Rating 3.5 bar with bypass (LMP) 1.75 bar bypass (MPS) Visual/electrical indicator (on LMP) set at 2 bar
Fluid Temperature	From -10° to +80°C
Ambient Temperature	From 0° to +45 °C
Protection Class	IP 55
Seal	NBR
Fluid Compatibility	Mineral oil and diesel oil variants
Suction and pressure hose	SAE100R4 1" swaged female 2000mm hose - available with lances
Weight	GRF - 92kg, 1151mm (H); 816mm (D); 544mm(W) GRM - 97kg, 1151mm (H); 816mm (D); 544mm (W)
Equipment	ICM 2.0 Version available (GRM Models)

How to order

GRF/GRM 503

Order example

1. Model

GRF= GRF Mobile Filtration Trolley

GRM= GRM Mobile Filtration Trolley with ICM 2.0

2. Flow

50= 50 L/min

3. Electric Power

3= 1.1 kW 4hp 1400rpm

4. Electric Motor

1= 110v single phase

2= 240v single phase

3= 415v 3 phase

5. Replacement Suction Element

Y250= 250um suction strainer

6. Filtration

S= Single Spin-on (option) plus LMP430 length 5 (standard)

SP= Double Spin-on (option) plus LMP430 length 5 (standard)

L4305= LMP4305 (standard)

GRF 50 3 3 Y250 SPL4305

Filters

Filter element - Standard length: Inorganic microfiber element

CS 100 A01 A P01	1 µm absolute
CS 100 A03 A P01	3 µm absolute
CS 100 A06 A P01	6 µm absolute
CS 100 A10 A P01	10 µm absolute
CS 100 A25 A P01	25 µm absolute

Filter element - Standard length: Wire-mesh element

CS 100 M25 A P01	25 µm
CS 100 M60 A P01	60 µm

Filter element - Extended length: Inorganic microfiber element

CS 150 A01 A P01	1 µm absolute
CS 150 A03 A P01	3 µm absolute
CS 150 A06 A P01	6 µm absolute
CS 150 A10 A P01	10 µm absolute
CS 150 A25 A P01	25 µm absolute

Filter element - Extended length: Wire-mesh element

CS 150 M25 A P01	25 µm
CS 150 M60 A P01	60 µm

LMP Length 5 elements - Inorganic microfibres element

CU 400 5 A03 A N P01	3 µm absolute
CU 400 5 A06 A N P01	6 µm absolute
CU 400 5 A10 A N P01	10 µm absolute
CU 400 5 A16 A N P01	16 µm absolute
CU 400 5 A25 A N P01	25 µm absolute

Equipped with ICM 2.0 In-line Contamination Monitor

Mobile Filtration Unit

Fluid Transfer Unit
80 Litre onboard resevoir
Flow rate up to 15 L/Min

Designed for filling; recirculation (via an onboard 80L reservoir), and emptying filtered hydraulic fluids and lubrication tanks.

The FTU can be utilised either as additional filtration for a system with a high incidence of contamination, or as a standalone recirculating filtration circuit to clean fluid to a predetermined cleanliness level - monitored by the onboard ICM - prior to transfer of fluid to the system.

Key features:

- Continuous operation at 3.5 bar
- Specialist onboard filtration unit
- Easy to maintain
- Large dirt-holding capacity
- Comes with LMP4305 and MPS100 spin on filters as standard
- Water removal spin on option
- Compatible with mineral oil
- Calibrated to relevant ISO standards – ICM
- Electric control box
- Indicators: Outlet filter with electric cut-out switch
- Nitrile Seals
- ICM 2.0 included for real time monitoring
- Data logging and storage of up to 4000 test memory results

Applications:

- Low flowrate for filling of reservoirs
- Low flow filtration for off-line tanks
- Pre-filtration ability of fluid prior to filling of the hydraulic system
- Configuration with start / stop automatic motor cut-out from differential pressure indicator - electrical / visual
- Configuration with start / stop phase inverter automatic motor cut-out from differential pressure indicator - electrical / visual



SPECIFICATION

Pump	Gear Pump
Electric Motor	0.75kW 1400rpm, 110/230V single phase
Flow Rate	15 L/min
Max Operating Pressure	3.5 bar
Inlet	Inlet (pump protection) filtration steel 250µm Y-type strainer
Viscosity Range	Maximum 150 cSt
Tank Filter	250 µm metal mesh suction strainers
Outlet Filter	In-line filtration 3 µm absolute β 1000 element bypass set at 3 bar.
Bypass Valve	Rating 3.5 bar with bypass Water removal “spin-on” type, bypass set at 1.75 bar.
Controls	Electrical Control Box
Indicator	Delivery line electric cut out switch
Fluid Temperature	From -10° to +80°C *
Ambient Temperature	From 0° to +40 °C* (*viscosity dependent)
Protection Class	IP 55
Seal	NBR
Fluid Compatibility	Mineral oil compatible
Hose	Flexible hoses - SAE100R4 fw 1” BSP swaged females 2mtr long hose
Dimensions	Weight: 200kg Dimensions: 1155mm (H); 1082mm (D); 665mm(W)
Equipment	ICM 2.0 Version available

How to order

FTU080

Order example

	FTU	1	1	15	2	1	M250	SL4305
1. Model								
FTU= Fluid Transfer Unit								
2. Onboard reservoir								
1= 80 Litres								
3. Inline Contamination Monitor								
1= ICM 2.0								
4. Flow rate								
15= 15 L/min								
5. Motor Power								
2= 0.75 kW, 1400 rpm								
6. Voltage								
1= 110v - 50Hz single phase								
2= 220v - 50Hz single phase								
7. Inlet Filtration								
M250= 250 µm suction strainer								
8. Outlet Filtration								
SL4305= Single spin on plus LMP length 5 (no elements included*)								

Filters

Filter element - Standard length: Inorganic microfiber element

CS 100 A01 A P01	1 µm absolute
CS 100 A03 A P01	3 µm absolute
CS 100 A06 A P01	6 µm absolute
CS 100 A10 A P01	10 µm absolute
CS 100 A25 A P01	25 µm absolute

Filter element - Standard length: Wire-mesh element

CS 100 M25 A P01	25 µm
CS 100 M60 A P01	60 µm

Filter element - Extended length: Inorganic microfiber element

CS 150 A01 A P01	1 µm absolute
CS 150 A03 A P01	3 µm absolute
CS 150 A06 A P01	6 µm absolute
CS 150 A10 A P01	10 µm absolute
CS 150 A25 A P01	25 µm absolute

Filter element - Extended length: Wire-mesh element

CS 150 M25 A P01	25 µm
CS 150 M60 A P01	60 µm

LMP Length 5 elements - Inorganic microfibres element

CU 400 5 A03 A N P01	3 µm absolute
CU 400 5 A06 A N P01	6 µm absolute
CU 400 5 A10 A N P01	10 µm absolute
CU 400 5 A16 A N P01	16 µm absolute
CU 400 5 A25 A N P01	25 µm absolute

Water Removal - Extended Length: Multi-layer water absorber

CW 150 P10A	10 µm absolute
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