

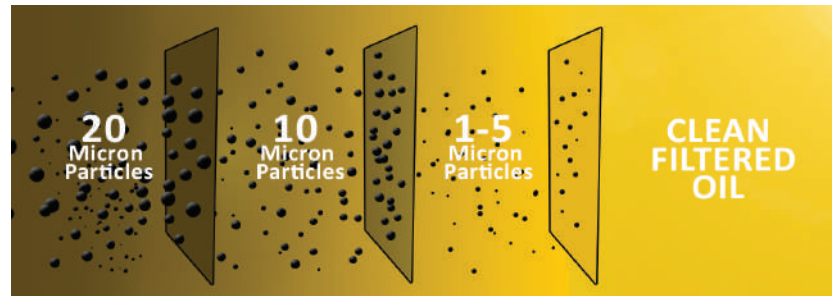
Oil Filtration System

Minimac's FS series oil filtration systems are high-end technology machines popularly used for superfine stage filtration (fine solid particle removal) of lubricating and hydraulic oils. These are externally attached, independently operating by-pass oil purifying machines.



FS-600

Technology: Stagewise Mechanical Filtration



FS-100



FS-50



FS-40



FS-150



FS-225

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Minimac Systems Pvt. Ltd.
GST No: 27AAICM4730E1ZL

☎ 1800 1209 003 ✉ enquiry@minimac.in
🌐 www.minimacsystems.com

Gat No 448/15, Success Industrial Park Nighoje, Khed, Chakan, Pune, Maharashtra 410501

Why Oil Purification Important

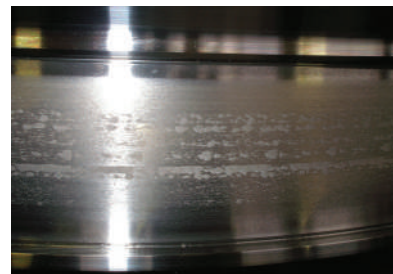
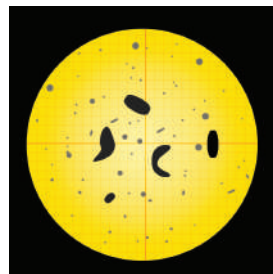
Metallic wear particles (of < 5 micron size) are generated by a lubrication system itself during its operation. Metallic wear particles are highly abrasive in nature

Increase of wear particles is highly damaging to machine components.

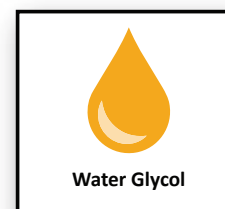
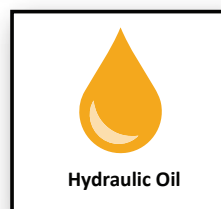
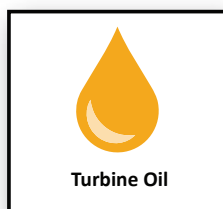
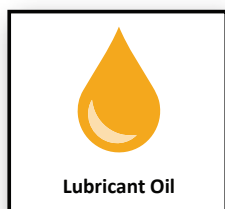
Wear particles typically cause 50% of all failures.

These multiply due to wear and tear of surfaces of machine components.

The most harmful particles are the ones trapped in the dynamic tolerance like in bearings.



Types of fluid which can be cleaned



Nomenclature - Model No. FS -

T1
T2
T3
T4

T1	Pump Flow Rate (LPM)	Filtration Capacity (LPM)
5 LPM	5 LPM	5 LPM
10 LPM	10 LPM	10 LPM
20 LPM	20 LPM	20 LPM
40 LPM	40 LPM	40 LPM
60 LPM	60 LPM	60 LPM
80 LPM	80 LPM	80 LPM
100 LPM	100 LPM	100 LPM
150 LPM	150 LPM	150 LPM
200 LPM	200 LPM	200 LPM

T2	No. of Filtration Stages Present
1S	1 stage filtration
2S	2 stage filtration
3S	3 stage filtration

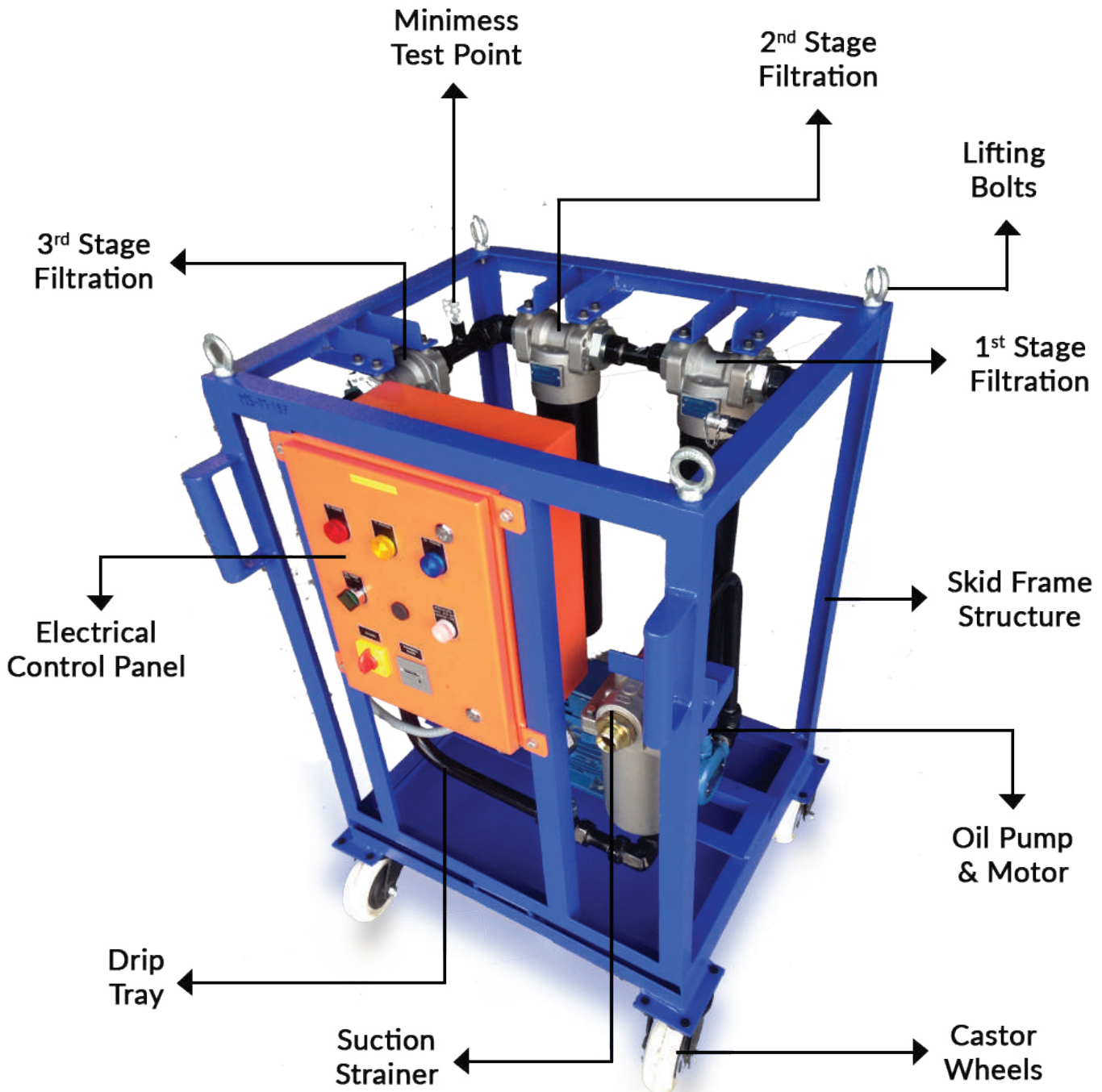
T3	Fluid Type
H	Hydraulic Oil & Lube Oil (upto 220 cSt)
G	Gear Oil (320 cSt & above)
FRF	Synthetic Fluid - FRF (Phosphate Ester)
WG	Water Glycol

T4	Filter Clogging Indications
V	1 stage filtration
E	Electrical Indication

For customizations please contact Minimac® Sales Representative.

All specifications and configurations are indicative and should be verified with Minimac® Sales Office prior to ordering

Features



Specifications

Installation Scheme	Trolley Mounted, Portable Machine
Working	Online / Offline. Fitted externally to oil reservoir as a by-pass oil purification system
Operational Principle	Stage Filtration of reducing microns Filters : The filters used in this skid are made of inorganic fiber glass impregnated media in pleated form for better filtration area. The choice of filter rating and size is done to ensure best filter life, efficiency and performance.
Benefits Filtration Capacity Oil Viscosity handled Oil Types handled Prevents oil oxidation Ensures Higher Oil Life Prevents Valve Failures Prevent Pump Failures Increases bearing life	for gear oil NAS ≥ 7 , for other oil NAS ≤ 4 0 – 680 cSt. For higher viscosities customized model to be ordered Hydraulic, Lube, Turbine Oil, Gear Oil, FRFs (Phosphate Esters) By removal of solid particles in oil By retaining Viscosity, TBN, Flash Point, Additive level etc. Due to removal of sticky sludge Due to removal of micron particles Due to moisture & sludge free oil
Oil Flow Systems Oil in-take / delivery system	Gear Type Monobloc / coupled Pump
Filtration Stages Suction line Strainer 1 st Stage Filter 2 nd Stage Filter 3 rd Stage Filter	149 micron (SS mesh type) 25 micron (SS mesh) or 16 / 10 micron (fiber glass, Pleated type) 6 micron (European media - fiber glass, Pleated type) 3 micron (European media - fiber glass, Pleated type)
Oil Drive Systems Pump Motor	20 LPM / 40 LPM / 60 LPM / 80 LPM / 150 LPM / 200 LPM Gear Type 415 V, 3 Phase, 1500 RPM (standard). Other options & flameproof options on request
Electrical Controls Dry Run Protection Overload pump protection Supply Protections Flameproof options	Yes (Optional) Yes (Optional) RCCB / ELCB based (Optional) Optional. Available on request & as per requirement
Indications Oil Pressure Suction Filter Clog Stage Depth Filters Clog Lamp Indications	0 - 15 bar Visual Based or Vacuum Switch Based Visual Based or DP Switch Based Phase, Pumps Operation, Filter Clogging (optional).
Hose Pipes Suction Pipe Delivery Pipe	3 m hydraulic hose pipe (Rubber / PTFE) 3 m hydraulic hose pipe (Rubber / PTFE)
Electrical Cable	10 m, 4 core
Fabrication Structure	MS (powder coated) structure frame Castor Wheels with swivel, bearing and pad brakes

Credentials

Clients	City	Country	Capacity
Aarti Green Tech Ltd	Rohtak	India	20 LPM
Alstom Industries Ltd	Morigaon	India	1200 LPH
Andhra Pradesh Power Generation Corporation Ltd	Koraput	India	500 LPH
Anta Gas Power Station (NTPC)	Baran	India	150 LPM
Apex Enterprises	Bardhaman	India	10 LPM
Apollo Logistics Solutions Ltd	District : Panvel	India	20 LPM
Astral Pipes	Aurangabad	India	20 LPM
Atharva Foundries Pvt Ltd	Satara	India	40LPM
Atlas Copco (India) Ltd	Pune	India	220 LPM
Ayoki Fabrication Pvt Ltd	Dar es Salaam	Tanzania	2000LPH
Balaji Amines Ltd	Solapur	India	20 LPM
BG Shirke Construction Technology Pvt Ltd	Narela	India	10 LPM
Brahmaputra Cracker And Polymer Ltd	Dibrugarh	India	40 LPM
Calcom Cement India Ltd	Umrangshu	India	1200 LPH
Chaliyama Steel Plant	Rajnagar	India	20 LPM
Chhabra Supercritical Thermal Power Project	Chhabra	India	30 LPM
Crest Test Systems Pvt Ltd	Pune	India	15 LPM
Cubes Energy Solutions Pvt Ltd	Kanchipuram	India	40 LPM
Dalmia Cement (Bharat) Ltd	Tiruchirappalli	India	75 LPM
Darlipali Super Thermal Power Station (NTPC)	Sundargarh	India	600 LPM, 40 LPM
DCM Shriram Ltd	Kota	India	10 LPM
Emami Paper Mills Ltd	Balasore	India	60 LPM
Essar Power MP Ltd	Singrauli	India	20 LPM, 10 LPM
Freedom Fragrances	Surat	India	20 LPM
Gadarwara Super Thermal Power Station (NTPC)	Natsinghpur	India	40LPM
GE India Industrial Pvt Ltd	Pune	India	40 LPM
GKN Sinter Metals Pvt Ltd	Pimpri- Pune	India	10 LPM
Guardian Castings Pvt Ltd	Thane	India	20 LPM
Heavy Engineers Industries & Shipbuilding Co KSC	-	Kuwait	50 LPM
Hindustan Aeronautics Ltd - Sukhoi Engine Division	Koraput	India	50 LPM
Hpcl Mittal Energy Ltd	Bhatinda	India	200 LPH
HPCL-Mittal Energy Ltd	Bhatinda	India	10 LPM
Hy-Tech Engineers Pvt Ltd - Maharashtra	Khandala , Satara	India	20 LPM
IB Thermal Power Station	Banharipali	India	20 LPM
Imperial Auto Industries Ltd	Pune	India	20 LPM
Indian Oil Corporation Ltd (IOCL) - Barauni Refinery	Begusarai	India	15 LPM
Indian Oil Corporation Ltd (IOCL) - Bongaigaon Refinery	Bongaigaon	India	40 LPM
Indian Oil Corporation Ltd (IOCL) - Panipat Refinery	Panipat	India	15 LPM
Indian Ordnance Factory	Kolkata	India	20 LPM
Inline Shipping Agency Pvt Ltd	Thane	India	40 LPM
INOX Green Energy Services Ltd	Satara	India	10 LPM
International Commerce Ltd	Burdwan	India	100 LPM

Credentials

Clients	City	Country	Capacity
Jagdamba Enterprises Pvt Ltd	Birganj	Nepal	60 LPM
Jamna Auto Industries Ltd	Chengalpattu	India	20 LPM
Jhajjar Power Ltd	Jajjar	India	50 LPM
JK Tyre - Rajasthan	Kankroli	India	20LPM
Jobbera Thermal Power Plant	Jamshedpur	India	20 LPM
Kanti Bijlee Utpadan Nigam Ltd (NTPC)	Muzaffarpur	India	150 LPM
Kawas Thermal Power Station (NTPC)	Bharuch	India	150 LPM
KEPCO Plants Service and Engineering Co Ltd	Chittorgarh	India	50 LPM
Khargone Super Thermal Power Station (NTPC)	Khargone	India	40 LPM
L&T Rubber Processing Machinery	Kanchipuram	India	40 LPM
L&T- MHI Power Turbine Generators Pvt Ltd	Surat	India	150 LPM
Lara Super Thermal Power Station (NTPC)	Pussore	India	40 LPM
Larsen & Toubro (L&T) Ltd	Patiala	India	200 LPM
Lawas Lube- Specialities	Raigad	India	50 LPM
Madhepura Electric Locomotive Pvt Ltd	Madhepura	India	10 LPM
Maharashtra State Power Generation Co Ltd (MSPGCL)	Pune	India	8 LPM
Malhotra Enterprises	Kathmandu	Nepal	40 LPM
Mamta Plast	Shamshabad	India	10 LPM
MAN Energy Solutions India Pvt Ltd	Vadodara	India	20 LPM
Manuli Fluiconnecto Pte Ltd	-	Singapore	40 LPM, 100 LPM
Mauda Super Thermal Power Station (NTPC)	Nagpur	India	20 LPM
Meenakshi Energy Pvt Ltd	Nellore	India	20 LPM, 150 LPM
Meil Green Power Ltd	Ananthpur	India	200 LPM
Mitsu Chem Plast Ltd	Raigad	India	10 LPM
Mjunction Services Ltd	Kolkata	India	20 LPM
Mjunction Services Ltd	Bokaro	India	20 LPM
Nabinagar Power Generation Company Pvt Ltd (NPGCL)	Aurangabad	India	40 LPM
Nelion Exports	Mumbai	India	60 LPM
North Karanpura Super Thermal Power Plant (NTPC)	Chatra	India	40 LPM
Oil and Natural Gas Corporation Ltd (ONGC) - Hazira Plant	Surat	India	1200 LPH
Prakash Sponge Iron And Power Pvt Ltd	Chitradurga	India	10 LPM
Preet Tractors	Nabha	India	20 LPM
Raigarh Energy Generation Limited	Raigarh	India	6 LPM
Raipur Energen Ltd	Raipur	India	50 LPM
Ramagundam Super Thermal Power Station (NTPC)	Karim Nagar	India	100 LPM
RattanIndia Power Ltd	Amravati	India	10 LPM
RKM Powergen Pvt Ltd	Dhara Janjgir Champa	India	40 LPM, 200 LPM
Rosa Power Supply Company Ltd	Shahjahanpur	India	600 LPH
Sansera Engineering Ltd	Pune	India	40 LPM
Sasan Power Ltd	Singrauli	India	80 LPM, 10 LPM, 50 LPM, 40 LPM
Sembcorp Energy India Ltd	Nellore	India	20 LPM
SEP Energy Pvt Ltd	Satara	India	15 LPM

Credentials

Clients	City	Country	Capacity
Seshasayee Paper and Boards Ltd	Erode	India	40 LPM
Sharada Enterprises	Pune	India	20LPM
Shell India Markets Pvt Ltd	Raigadh	India	100 LPM
Shibaura Machine India Pvt Ltd	Chennai	India	10 LPM
Shree Cement Ltd - Beawar	Beawar	India	450 LPM
Shri Bajrang Power and Ispat Ltd - Tilda Division	Raipur	India	20 LPM
Siemens Ltd	Vadodara	India	20 LPM
Simba International	Pune	India	10 LPM
SKS Power Generation Chhattisgarh Ltd (SPGCL)	Raigarh	India	150 LPM,20 LPM
Solapur Super Thermal Power Station (NTPC)	Solapur	India	40 LPM
Sparrow Offshore Services	Kewdale	Australia	100 LPM
Star Trading Corporation	Pune	India	10 LPM
Starion India Pvt Ltd	Pune	India	100 LPM
Steel Authority of India Ltd	Bardhaman	India	40 LPM
Surya Marketing Corporation	Pune	India	20 LPM
Synertek Pipeline Services LLC	Muscat	Oman	2000 LPM
Talcher Super Thermal Power Station (NTPC) - Angul	Angul	India	150 LPM
Talwandi Sabo Power Ltd	Mansa	India	40 LPM
Tanda Thermal Power Station (NTPC)	Ambedkarnagar	India	20 LPM
Tangent Power	Parwanoo	India	20 LPM
Tata Consultancy Services	Mapusa	India	300 LPM
Thriveni Sainik Mining Pvt Ltd	Hazaribaug	India	50 LPM,20 LPM,50 LPM
TPSC (India) Pvt Ltd 1) Toshiba Plant Systems & Services Corporation - Meja 2) Toshiba Plant Systems & Services Corporation - Kudgi	1)Allahabad 2)Vijayapura	India	225 LPM,100 LPM
Trumboo Cement Industries Pvt Ltd	Rajbagh	India	40 LPM
Udupi Power Corporation Ltd	Udupi	India	20 LPM
UK Enterprises	Asansol	India	80 LPM
Ultimate Destination General Trading F.Z.E	Dubai	United Arab Emirates	4000 LPM
Unitech Power Transmission Ltd	Nagpur	India	20 LPM
Uttam Galva Steels Ltd	Raigad	India	100 LPM
Vietnam Hydrocarbon Instruments Co Ltd	Tan Binh	Vietnam	40 LPM
Visakha Container Terminal Pvt Ltd	Visakapatnam	India	210 LPM
VJ Engineering Trading and Services	Selangor	Malaysia	40 LPM
Wind World India Ltd	Jodhpur,Jamnagar,Devas,Pune	India	2000 LPH
Yeramarus Thermal Power Station	Raichue	India	250 LPH
Zamil Steel Buildings India Pvt Ltd	Pune	India	20 LPM