

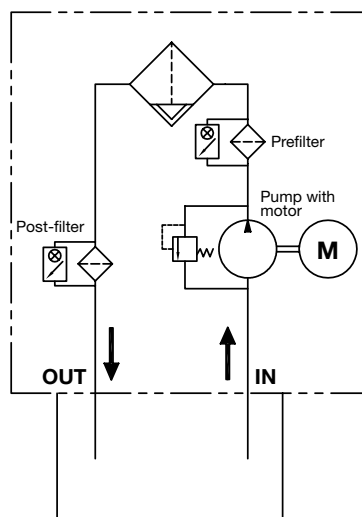
OFFLINE FILTRATION SYSTEMS

IXU 1/4 Series

Ion eXchange Unit



Hydraulic Schematic



* optional equipment, see ordering details
VA = Clogging indicator

Description

The user-friendly Ion eXchange Unit is designed to condition flame resistant, phosphate-ester-based (HFD-R) hydraulic and lubrication fluids.

They effectively remove acidic products of decomposition and dissolved metal soaps caused by the hydrolysis and/or oxidation of the fluid.

The units are applied to hydraulic and lubrication oil tanks of up to ≈ 5285 gallons ($\approx 20,000$ liters) with a volumetric flow of ≈ 2.4 gpm (≈ 9 l/min) in the bypass flow.

Mobile or stationary IXU are available.

The IXU uses HYDAC Ion eXchange Elements (IXE).

Features

- Effective removal of acids and metallic salts
- No extractable metals or particles, as in the case of fuller's earth or active aluminum oxide
- Easy to service units
- Available as complete unit for service, and as a modular system for retrofitting existing bypass circuits or for OEM

Advantages

- Extended service life of the operating fluid
- Reduction in functional problems, e.g. with servo valves
- Greater machine and system availability

Water contamination is a primary source of acidic product generation in HFD-R fluids. We additionally recommend continuous dewatering, for example, using an NAV.

Applications

- Power plants
- Steel industry
- Other applications with ester-base, flame resistant fluids

Technical Specifications

| Hydraulic Data | |
|--|--|
| Neutralization value achievable | < 0.1 mg KOH / g possible |
| Typically, possible to use up to | 1 mg KOH / g |
| Flow rate | IXU 1 ≈ 0.5 gpm (≈ 2.2 l/min) IXU 4 ≈ 2.4 gpm (≈ 8.9 l/min) |
| Fluid temperature | 86 to 140 °F (30 to 60 °C) |
| Max. operating pressure | 87 psi (6 bar) |
| Permissible suction pressure at suction inlet IN | -5.8 to 14.5 psi (-0.4 to 1 bar) |
| Viscosity range | 80 to 370 SUS (15 to 80 cSt) |
| Permissible operating fluid | HFD-R – Flame resistant, phosphate-based hydraulic fluids. |
| Connectors IN / OUT | 1/2" Male JIC |
| Pump type | Gear |
| Electrical Data | |
| Power supply voltage | See ordering details |
| Power consumption | 0.25 to 0.6 kW / 16 Amps |
| Ambient Conditions | |
| Operating temperature range | 32 to 104 °F (0 to 40 °C) |
| Storage temperature range | 32 to 140 °F (0 to 60 °C) |
| Relative humidity | 0 to 80%, non-condensing |
| Protection class to DIN 40050 | IP 55 |
| General Data | |
| Length of electrical connection cable (optional) | 5' (1.5 m) |
| Sealing material | FKM (Viton®) |
| Sound level at 1m | < 80 dB(A) |
| Weight* (empty) | IXU 1 = 155 lbs (70 kg), IXU 4 = 660 lbs (300 kg) |
| Fluid cleanliness required | ISO 19/17/14 (ISO 4406:1999) 9A/9B/9C (SAE AS4059) |

*Weight noted is for a stationary unit.

Model Code

| | | | | | | | | | | | |
|------------------------------|-----|--|--|--|--|--|--|--|--|--|--|
| | | IXU - 4 - M - G - F - G10 - BM - G05 - /PKZ | | | | | | | | | |
| Series | IXU | = | Ion eXchange Unit | | | | | | | | |
| Size | 1 | = | 1 Ion eXchange element NAIXE200 ≈ 0.5 gpm (2.2 l/min) | | | | | | | | |
| | 4 | = | 4 Ion eXchange elements NAIXE200 ≈ 2.4 gpm (8.9 l/min) | | | | | | | | |
| Type | M | = | mobile | | | | | | | | |
| | S | = | stationary | | | | | | | | |
| Type of pump | G | = | gear pump | | | | | | | | |
| | Z | = | without | | | | | | | | |
| Power supply voltage | F | = | 230 V, 60 Hz, 3 Ph | | | | | | | | |
| | K | = | 115 V, 60 Hz, 1 Ph | | | | | | | | |
| | O | = | 460 V, 60 Hz, 3 Ph | | | | | | | | |
| | Z | = | without (only available with "Z" pump type option) | | | | | | | | |
| Prefilter | G05 | = | with 5µm element | | | | | | | | |
| | G10 | = | with 10µm element | | | | | | | | |
| Clogging indicator | BM | = | differential pressure indicator – visual | | | | | | | | |
| | C | = | differential pressure indicator – electrical | | | | | | | | |
| Postfilter | G05 | = | with 5µm element | | | | | | | | |
| | G10 | = | with 10µm element | | | | | | | | |
| Supplementary details | PKZ | = | with on-off switch and overload protective motor switch (include with Mobile Option) | | | | | | | | |
| | FA1 | = | with on-off switch, overload protective motor switch and cut-out when filter clogged (requires neutral wire in power supply) | | | | | | | | |
| | FA2 | = | with on-off switch, overload protective motor switch and cut-out when filter clogged (does not require neutral wire in power supply) | | | | | | | | |

Model Codes Containing RED are non-standard items – Minimum quantities and longer lead times may apply - Contact HYDAC for information and availability.

Sizing

| Tank Volume | Ion eXchange Unit |
|--|-------------------|
| < 924.6 gal. (< 3,500 liters) | IXU-1 |
| 924.6 – 3,962.6 gal. (3,500 – 15,000 liters) | IXU-4 |
| > 3,962.6 gal. (> 15,000 liters) | 2x IXU-4 |

Ion eXchange Element & Filter Elements

| Ion eXchange Element | Part No. |
|---|----------|
| NAIXE200 | 7645980 |
| Particle Filter Element (pre-filter and post-filter) | Part No. |
| 5.03.18D 05 BN4 /-V-G | 2077497 |
| 5.03.18 D 10 BN4 /-V-G | 2056369 |

Scope of delivery

- IXU according to the model purchased. Ion eXchange elements (NAIXE200, see Ion eXchange Element & Filter Elements) purchased separately.
- Operation and maintenance manual

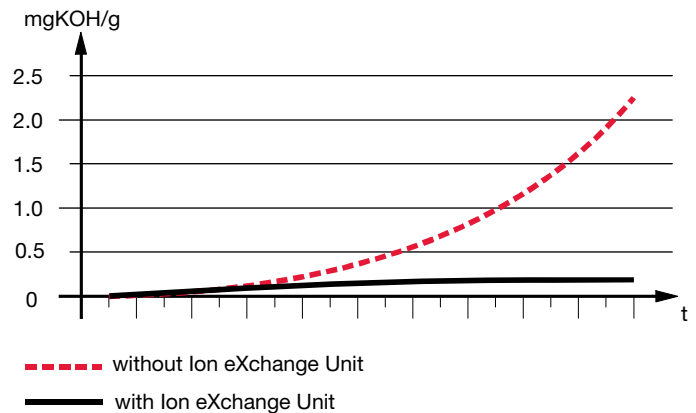
Order examples:

IXU-1-M-G-O-G10-BM-G05-PKZ requires:
1x NAIXE200

IXU-4-M-G-O-G10-BM-G05-PKZ requires:
4x NAIXE200

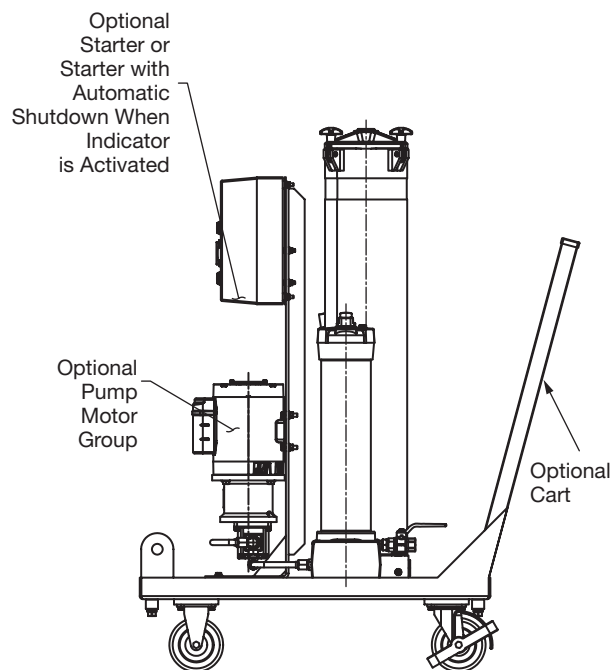
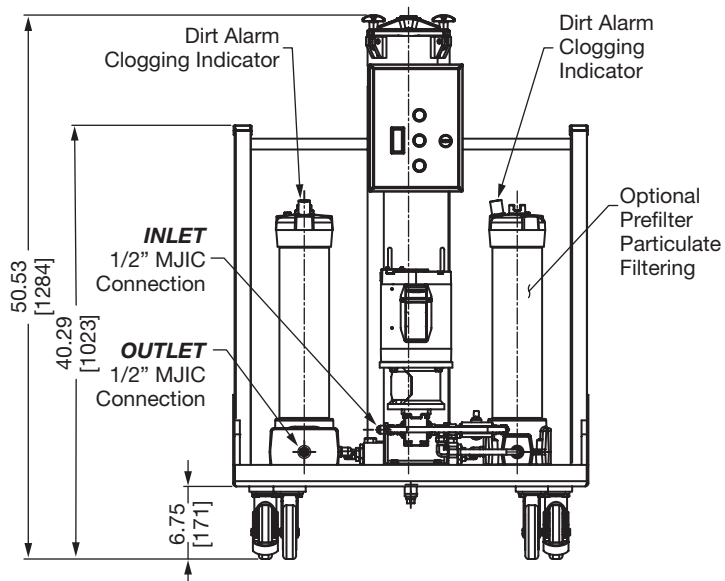
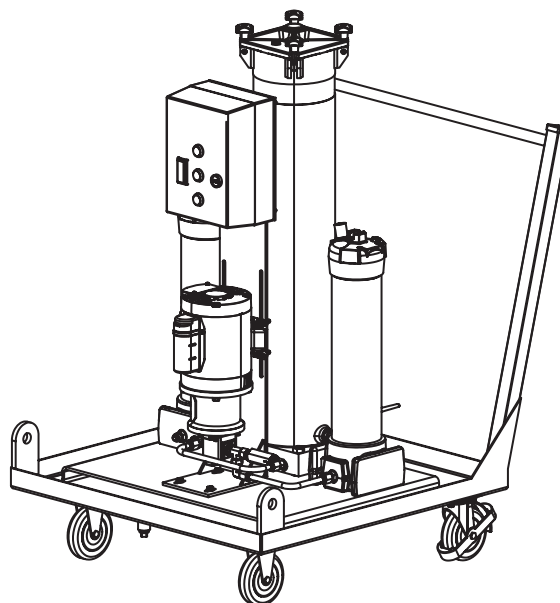
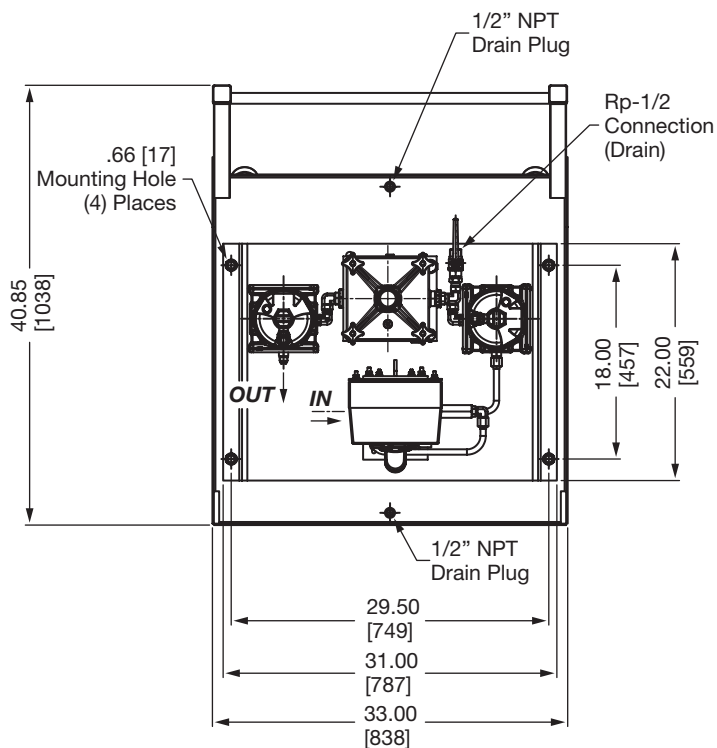
Performance

Example of acidification in HFD fluids with and without Ion eXchange Unit



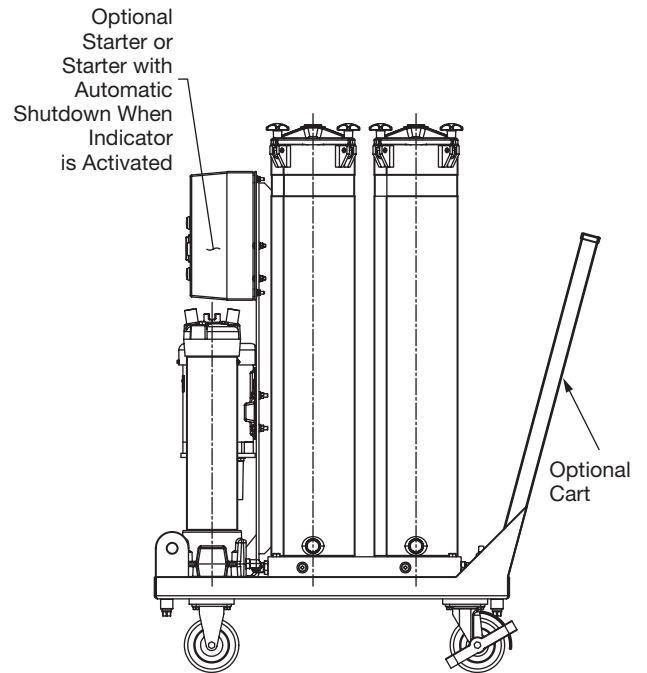
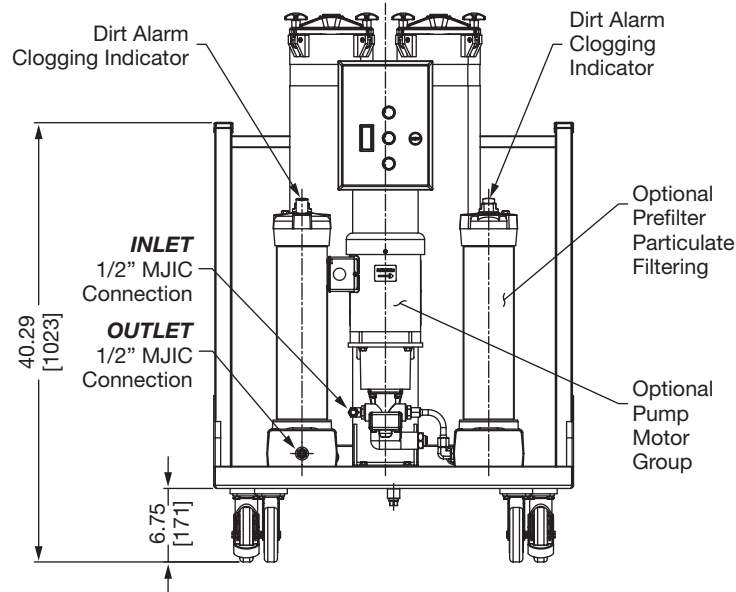
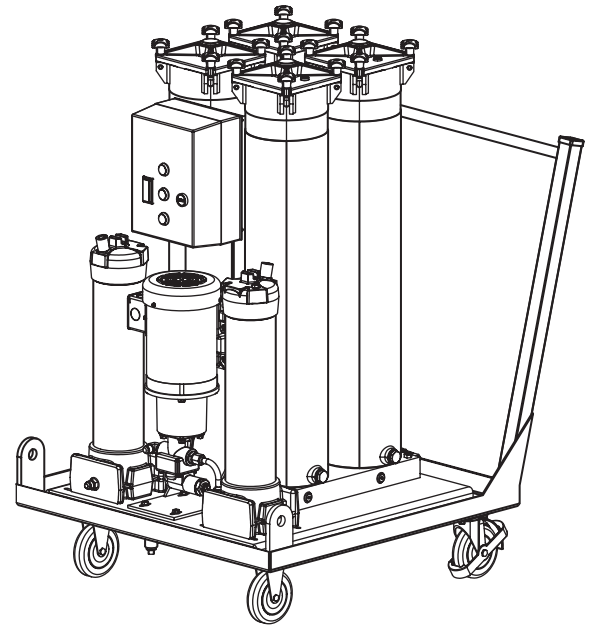
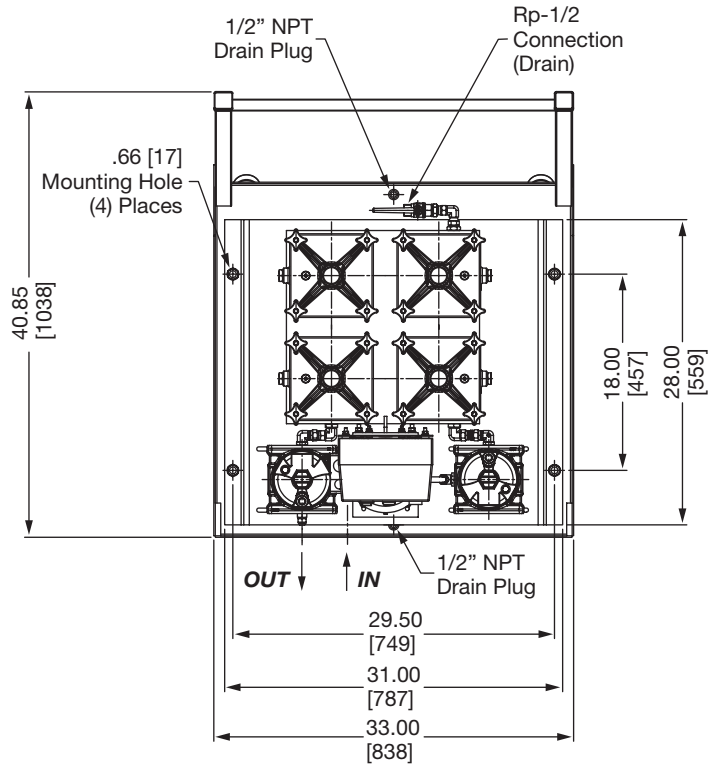
OFFLINE FILTRATION SYSTEMS

Dimensions IXU1 Series



Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print.

Dimensions IXU4 Series



Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print.