

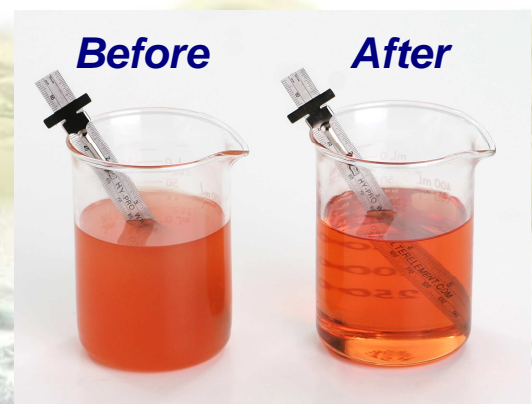
HY-PRO

# COALESCE SKIDS

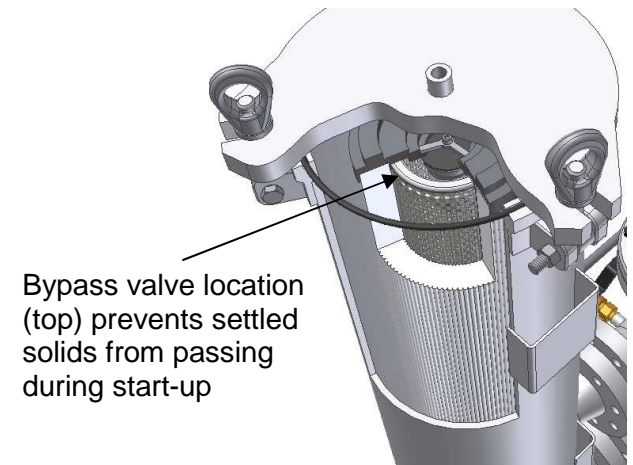
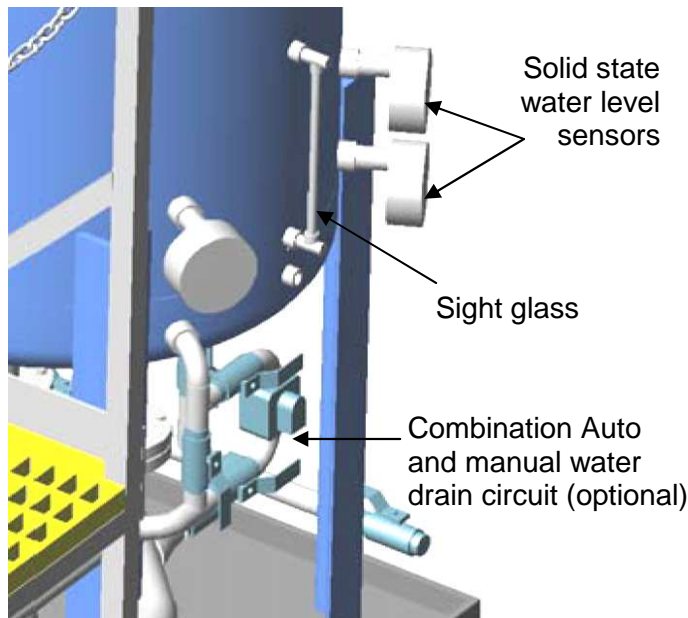
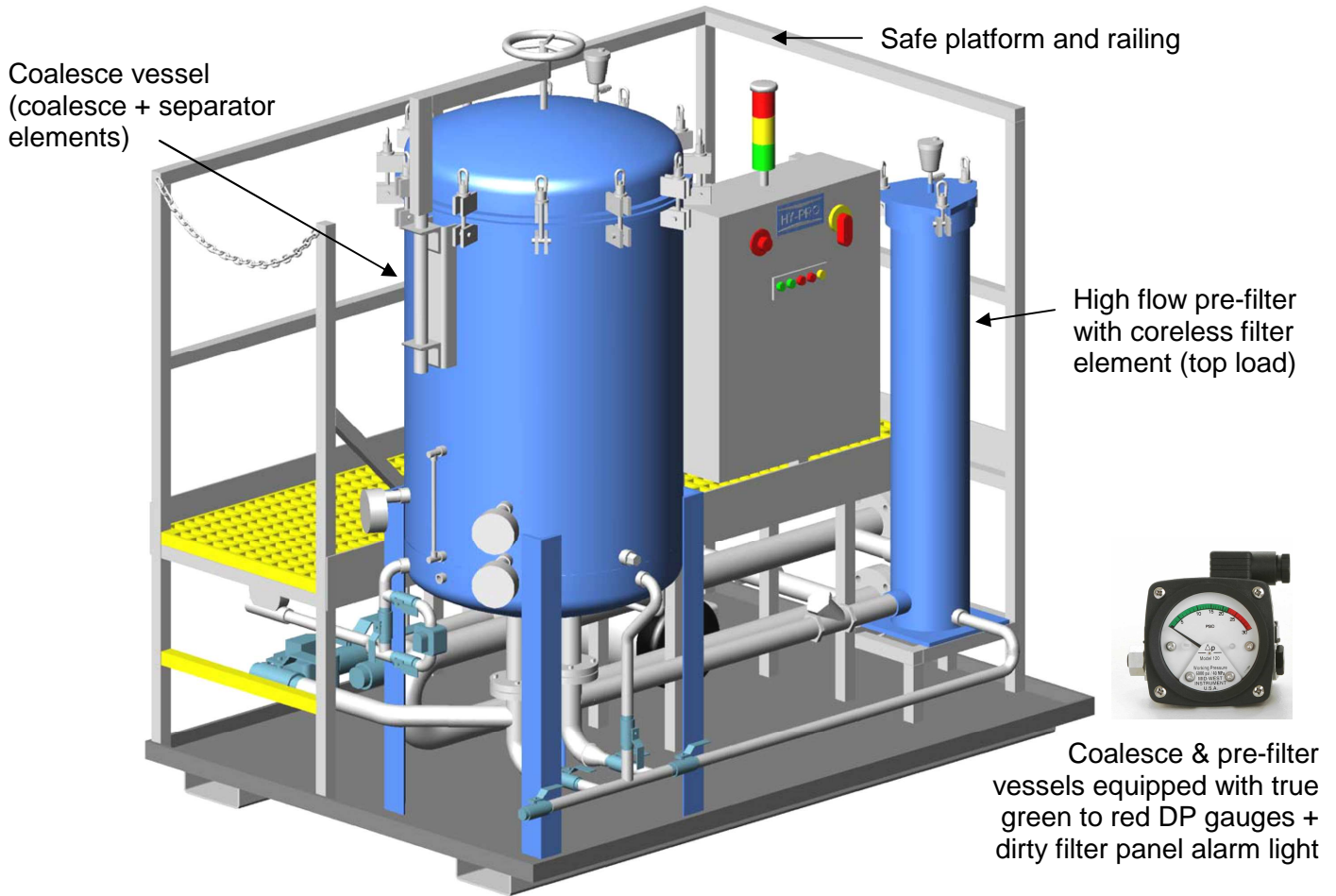
## TURBINE OIL AND FUEL COALESCE SKIDS



- Remove Free & Emulsified Water to 150 PPM / 0.0150% (Turbine oil), and to 75 PPM / 0.0075% (Diesel)
- Rapid removal of free water in high concentrations (steam, cooler leak)
- High Efficiency Particulate Filtration
- Digitally adjustable Low Watt Density Heaters optional for system start-up
- Dimensional and Arrangement Design Flexibility
- Automatic Water Drain Circuit solid state sensors (no moving parts)
- Electrical Phase Reversal Standard
- Smart Relay Controlled Panel Yields Easy & Reliable Operation
- Safe Service Platform Railing and Removable grids for service access.
- Microbial Growth Retardant Rod.

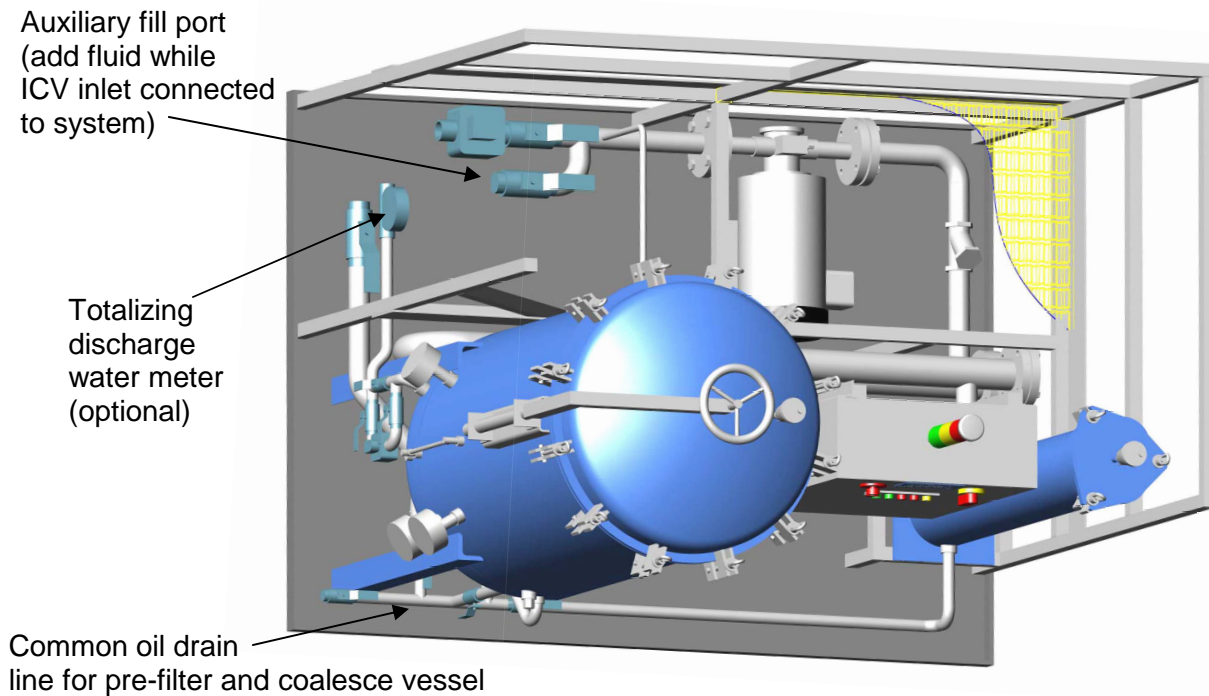
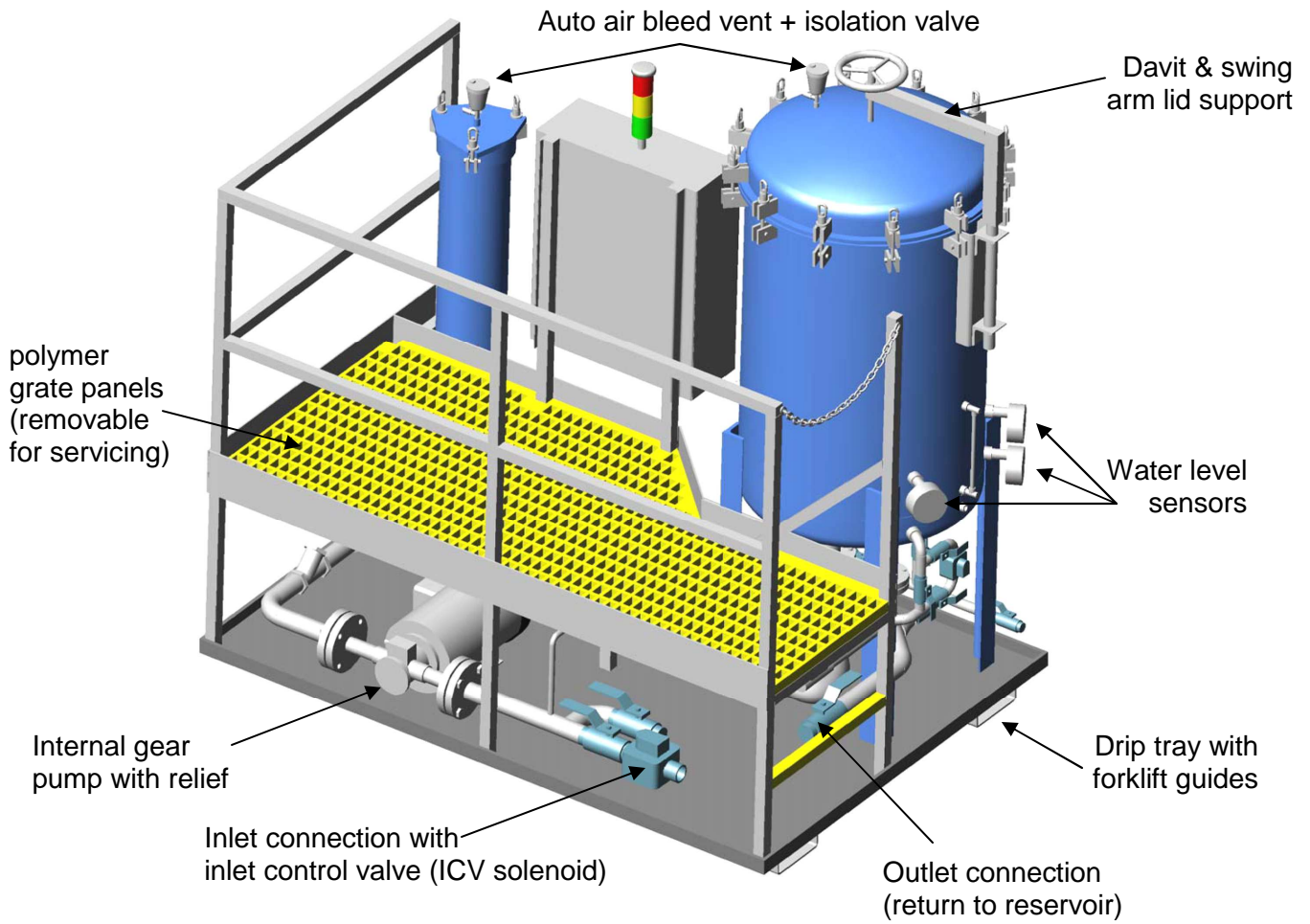


# High Water Removal Efficiency Combined with Intuitive Design

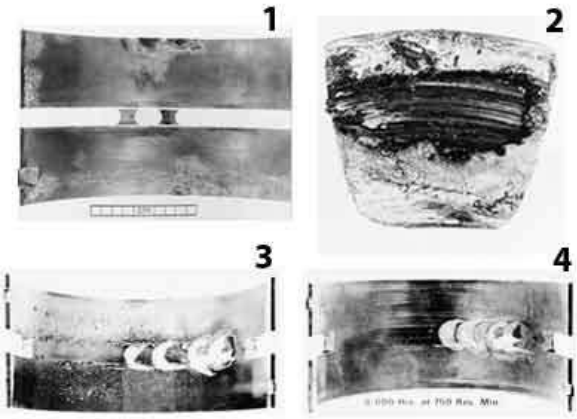


Coreless element with integral bypass valve (new bypass with every element change)









## The Harmful Affects of Water in Oil

Water is one of the most common and most damaging contaminants found in a lube or hydraulic system. Continuous or periodic high water levels can result in damage such as:

- Metal Etching (corrosion)
- Abrasive wear in hydraulic components
- Dielectric Strength Loss
- Fluid Breakdown
- Additive precipitation and oil oxidation
- Reduction in lubricating properties

## 75% of Hydraulic & Lube Component failures are Caused by Contamination

The effects of moisture in your oil systems can drastically reduce on-stream plant availability. Bearing life and critical component life is greatly reduced by moisture levels above and within the saturation point. Many systems run constantly above this point due to inefficient dehydration technologies and high ingress. This develops acidity and loss of lubrication properties. Free water occurs when oil becomes saturated and cannot dissolve any additional water. This water makes the oil appear cloudy and can even be seen in puddle form at the bottom of a reservoir. Water which is absorbed into the oil is called dissolved water. At elevated temperatures, oil has the ability to hold more water in the dissolved state due to the expansion of the oil molecules. As the oil cools, it loses its capacity to hold water and free water will appear where previously not visible. Fluid type also determines saturation point in addition to temperature changes.

		New Moisture Level PPM (%)									
		1000 (0.1%)		500 (0.05%)		250 (0.025%)		100 (0.01%)		50 (0.005%)	
Current Moisture Level (PPM)		Rolling Element	Journal Bearing	Rolling Element	Journal Bearing	Rolling Element	Journal Bearing	Rolling Element	Journal Bearing	Rolling Element	Journal Bearing
	5000	2.3	1.6	3.3	1.9	4.8	2.3	7.8	2.9	11.2	3.5
	2500	1.6	1.3	2.3	1.6	3.3	1.9	5.4	2.4	7.8	2.9
	1000			1.4	1.2	2	1.5	3.3	1.9	4.8	2.3
	500					1.4	1.2	2.3	1.6	3.3	1.9
	250	Component Life Extension by Removing Water*						1.5	1.3	2.3	1.6
100									1.4	1.2	

\*courtesy of Noria



**Operator Friendly Smart Relay** - Smart relay enabled control panel performs controlled start-up & shut-down routines for ease of operation and keeps operators out of the control box. Includes machine drain sequence & automatic phase reversal (internally controlled, no guess work or switch to throw). System status is reported with illuminated lights or sequences of flashing lights.

**Programmable Thermostat** - Programmable temperature controller for ease of operation and variable temp control with high limit safety setting.

**Heater Selector Switch (keyed)** - Optional keyed selector switch for all units above 12KW. Suitable with mobile unit when AMP circuit does not allow for AMP draw with heat > 12KW (Multiple heaters can be deselected)

**Optional Variable Frequency Drive Speed Control** - VFD controlled variable speed optimizes coalesce efficiency relative to oil temperature by running slower until optimum oil temperature is achieved.



Feature	Description
Common System Drain	All vessels and heater housings can be drained through a common drain (lowest point)
Safer Service Platform	Larger safe platform with railing and removable grid for easy access to serviceable components
Heater System	Low watt density heaters prevent coking. No direct heat element contact with oil. Heat applied only when needed
Auto Water Drain	Ideal for continuous and unattended operation Maximizes uptime (24/7 operation)
Solid State Water Sensing Controls	Auto drain and high water sensor level detection based on thermal conductivity of fluid (solid state probes). No moving parts to fail or service.
Flexible Design & Dimensions	Flexible dimensions and process arrangement to suit your application (We listen to what you want)
Pleated Coalesce Element	Pleated coalesce elements yield more efficient water coalesce than traditional wrapped bun designs
Combination Post-Filter & Separator Element	High efficiency pleated glass post filter with innovative separator sleeve knocks out water and consistently delivers lower ISO cleanliness codes
$\Delta$ P Sensor Location	True green to red $\Delta$ P gauges provide visual condition check and control panel signal. Sensors are located in the vessels for most accurate element condition monitoring
Longer Element Life	Coalesce and separator routine change interval 1 year or change on element $\Delta$ P indication for contaminated systems
Coreless Pre-filter	Coreless pre-filter element features $\beta_{5[c]} > 1000$ efficiency and integral bypass valve (new valve with each element change)
Totalizing Water Meter (optional)	Track amount of water removed from the system with optional totalizing water meter (can be integrated into optional PLC)

# COALESCE SKID SPECIFICATIONS & SIZING

Model	Length Inch (mm)	Width Inch (mm)	Height Inch (mm)	Weight Lbs (Kg)	*Inlet Size	*Outlet Size	Motor Size
CO*5	60 (1524)	36 (914)	72 (1828)	1300 (590)	1.5" Flange	1" Flange	1 HP
CO*10	60 (1524)	42 (1066)	80 (2032)	1650 (750)	1.5" Flange	1" Flange	1.5 HP
CO*30	84 (2134)	60 (1524)	90 (2286)	3980 (1809)	2" Flange	1.5" Flange	5 HP
CO*60	84 (2134)	70 (1778)	90 (2286)	4990 (2268)	3" Flange	2" Flange	5 HP
CO*100	96 (2413)	84 (2134)	90 (2286)	6240 (2836)	3" Flange	2" Flange	10 HP

\*Standad Connection ANSI Flange (for alternative connection types or sizes contact factory)

## Model Sizing Recommendations

Model	Maximum Reservoir Volume
COT5	3000 Liters / 800 Gallons
COT10	6000 Liters / 1600 Gallons
COT30	15000 Liters / 4000 Gallons
COT60	30000 Liters / 8000 Gallons
COT100	50000 Liters / 13250 Gallons

## Filter Elements Utilized by Model\*

Model	Pre-Filter Elements	Coalesce Elements HP731L39-CB	Separator/Polish Elements HP582L30-S1MB
COT5	1	1	1
COT10	1	2	1
COT30	1	5	3
COT60	1	8	4
COT100	1	10	9

\*Element quantity and configuration may vary for Fuel coalesce applications (COD, A, B\*\*) contact factory

