



Oil Separator Performance

This program is owned by Ultraspin Pty Ltd and is not to be used without approval



DATA SHEET #:	2975-9248	FILE:	
CLIENT:	Zenith Pacific Pty Ltd	<p>This model only applies to Ultraspin model separators. It does not account for 'dissolved oil', background materials or interfering substances. Results apply to the hydrocyclone component of systems only - not a full treatment system.</p>	
DATE:	16-Oct-25		
ENQUIRY #:	2975-9248		
Process Engineer:	Lyle		

DESIGN INPUT DATA:

Factor	Value	Units	Basis
Ultraspin Design Data			
Ultraspin Separator Type	M28		Ultraspin Design
Water Flow per Liner	0.0011	m3/sec	Design flow per liner
Operating Inlet Guage Pressure	0	kPa	Design Condition
Client Process Design Data			
Operating Water Temperature	25	C	Client Data
Operating Salt Content	0	ppt	Client Data
Operating Water Density	997	kg/m3	Client Data and Algorithm
Operating Water Dynamic Viscosity	0.000890	kg/ms	Client Data and Algorithm
Operating Oil Density	880	kg/m3	Client Data and Algorithm
Oil density (at ambient 25 C)	880	kg/m3	Client Data
Design Inlet Oil Concentration	400	mg/l	Client Data
Design Outlet Concentration	10	mg/l	Client Data
Mean (volumetric) oil drop size	30	Micron	Client Data

CALCULATIONS:

Factor	Value	Units	Basis
Operating Water Dynamic Viscosity	0.00089	kg/ms	Estimated from algorithm (salt and temp)
Operating Density difference	117	kg/m3	Calculated
Operating Density of water	997	kg/m3	Estimated from algorithm
Operating Oil density (at temp)	880	kg/m3	Estimated from algorithm
Reynolds Number	54011	ND	Non Dimensional
Hydrocyclone N/d75	6342263	ND	Calculated
d75	1.83924E-05	m	Calculated
d75	18	micron	Calculated
Design Separation Efficiency	97.5	%	
Calculated Single Pass Efficiency	96.4	%	
Outlet	15	mg/l	Excluding dissolved, background or interfering substances
Calculated Two Pass Efficiency	99.6	%	
Outlet	<5	mg/l	Excluding dissolved, background or interfering substances

