

PRESSURE VESSELS

INTRODUCTION

OIL SEPARATORS - COALESCENT ACCESSIBLE

ADVANTAGES

- Latest in oil separator technology
- 99% efficient
- Can enhance performance of other components in the system – e.g. Filter-Driers
- Coalescent matrix filters are able to capture solid contaminants above 3 microns and aerosols in liquid form to .001 microns
- Polyolester oils circulate insoluble solvents more freely than mineral based oils
- The Coalescent filter is finer than that used in conventional filter-driers and it will pick up all insoluble solvents down to 0.3 microns
- Maximises the protection of the compressor against running dry or oil slugging
- Maximises energy efficiency by reducing the potential for oil logging in the system and helps maintain effective heat transfer rate of heat exchangers
- Attached oil reservoir bottom on Model 927 R maximises space and eliminates attendant check valves and leak causing equalisation lines.

OPERATION

Atomised oil present in the discharge gas enters the oil separator flowing from the inside of the filter to the outside.

Conventional centrifugal and impingement screen oil separators only work to 100 microns thus missing 50% of the aerosols in the mass flow of the refrigerant.

Refrigerant oils in aerosol form typically range from less than 0.1 to 40 microns in size.

The majority of aerosols in the discharge gas are in the 0.4 to 10 micron range with more than 50% of the aerosols being less than 1 micron.

Conventional, centrifugal and impingement screen oil separators only work to 100 microns, thus missing 50% of the aerosols in the mass flow of the refrigerant.

A matrix type borosilicate coalescent filter is employed in lieu of the traditional impingement screens.

The borosilicate coalescent filter is made up of exceptionally pure and extremely fine glass fibres.

The glass fibres are woven together causing the oil molecules to vibrate into each other.

This causes the oil molecules to gather into larger droplets until they are forced to the outer layer of the filter and into the gravitational drain layer.

The oil return float then regulates the oil flow back to the compressor sump.



OIL SEPARATORS - COALESCENT ACCESSIBLE

CATALOGUE NUMBER	MODEL NUMBER	INLET & OUTLET CONNECTIONS ODS	OIL RETURN MF	DIMENSIONS mm		MAX. WORK. PRESS.	OIL CHARGE
				DIA.	LENGTH		
TEMPRITE							
DAB00090	922	5/8"	1/4"	102	324	3103	445 ml
DAB00095	923	7/8"	1/4"	102	330	3103	445 ml
DAB00100	924	1-1/8"	1/4"	102	473	3103	475 ml
DAB00105	925	1-3/8"	1/4"	102	468	3103	475 ml
DAB00110	926	1-5/8"	1/4"	152	883	3103	1.0 Ltr
DAB00120	926R	2-1/8"	3/8"	152	978	3103	6.7 Ltr
DAB00115	927	1-5/8"	1/4"	152	883	3103	1.0 Ltr
DAB00125	927R	2-1/8"	3/8"	152	978	3103	6.7 Ltr
DAB00130	55100010	Replacement Oil Filter - Suits Models 926/926R & 927/927R					
DAB00135	62034000	Replacement Oil Filter - Suits Models 922 & 923					
DAB00140	62037000	Replacement Oil Filter - Suits Models 924 & 925					
DAB00145	62028000	Flange Gasket - Suits Models 926/926R & 927/927R					

CATALOGUE NUMBER	MODEL NUMBER	CAPACITY kW					
		R404A/R507		R22		R134a	
		EVAPORATOR TEMPERATURE °C					
		-40	+4.4	-40	+4.4	-23.3	+4.4
DAB00090	922	4.7	30.6	5.7	31.2	6.2	19.9
DAB00095	923	6.5	42.6	7.9	43.4	8.7	27.7
DAB00100	924	11.7	76.5	14.1	78.1	15.6	49.9
DAB00105	925	17.9	116.0	21.5	117.0	23.7	75.8
DAB00110	926	30.6	119.0	36.8	203.0	40.5	130.0
DAB00120	926R	41.7	272.0	50.2	277.0	55.3	177.0
DAB00115	927	30.6	199.0	36.8	203.0	40.5	130.0
DAB00125	927R	41.7	272.0	50.2	277.0	55.3	177.0

Pressure vessels – cont'd

OIL SEPARATORS - INTERNAL FLOAT

CATALOGUE NUMBER	MODEL NUMBER	CONN. SIZE ODS	CAPACITY kW ⁽¹⁾				MAX. WORK. PRESS. kPa	OIL CHARGE ml ⁽²⁾
			R404A/R507/R22		R134a			
			EVAPORATOR TEMPERATURE °C					
			-40	+4.4	-40	+4.4		
TEMPRITE								
DAB00055	600TR	3/8"	5.6	6.6	3.6	4.3	3103	445
DAB00060	601TR	1/2"	8.4	9.9	5.3	6.4	3103	350
DAB00065	602TR	5/8"	16.7	19.7	10.6	12.9	3103	350
DAB00070	603TR	7/8"	25.1	29.5	15.8	19.3	3103	350
DAB00075	604TR	1-1/8"	33.5	39.4	21.1	25.7	3103	350
DAB00080	605	1-3/8"	41.9	49.2	26.6	32.2	3103	350
DAB00085	606TR	1-5/8"	69.9	83.0	37.6	45.7	3103	850



DIMENSIONS

CATALOGUE NUMBER	MODEL NUMBER	INLET & OUTLET CONNECTIONS ⁽³⁾	OIL RETURN CONNECTION MF	OVERALL HEIGHT mm	SHELL DIAMETER mm
DAB00055	600TR	3/8" Solder	1/4"	207	102.0
DAB00060	601TR	1/2" Solder	1/4"	260	108.0
DAB00065	602TR	5/8" Solder	1/4"	324	108.0
DAB00070	603TR	7/8" Solder	1/4"	368	108.0
DAB00075	604TR	1-1/8" Solder	1/4"	384	108.0
DAB00080	605	1-3/8" Solder	1/4"	483	108.0
DAB00085	606TR	1-5/8" Solder	1/4"	467	152.4

SELECT OIL SEPARATOR WITH CONNECTION SIZE NOT LESS THAN THE DISCHARGE LINE SIZE

NOTE:

- Capacity ⁽¹⁾ based on 60°C superheated discharge gas and refrigerant entering expansion valve at 43.3°C condensing temperature.
- The quantity of oil ⁽²⁾ nominated must be added to oil separator at time of installation.
- Models listed above are of a welded construction, with no access to internal components.
- Gas Inlet and Outlet connections ⁽³⁾ are female solder to accept O.D. tube size.

HELDON

CATALOGUE NUMBER	MODEL NUMBER	CONN. SIZE ODS	CONN. TUBE CENTRES mm	DIMENSIONS mm		MAX. WORK. PRESS. kPa
				DIA.	LENGTH	
DAB00000	3210-6406	3/8"	48	102	148	3500
DAB00005	3210-6408	1/2"	48	102	247	3500
DAB00010	3210-6410	5/8"	48	102	339	3500
DAB00020	3210-6414	7/8"	48	102	420	3500
DAB00030	3210-6418	1-1/8"	48	102	450	3500
DAB00040	3210-9626	1-3/8"	75	153	352	3500
DAB00045	3210-9634	1-5/8"	75	153	429	3500
DAB00050	3210-9634	2-1/8"	75	153	432	3500

NOTE:

- This range of steel bodied oil separators enable systems to operate more efficiently by removing oil from the refrigerant gas.
- Proven reliable float design, solid copper connections and internal baffle.
- Designed so that collected oil is kept warm and viscous for better oil return.

OIL SEPARATORS - EXTERNAL FLOAT

CATALOGUE NUMBER	MODEL NUMBER	CONN. SIZE ODS	OIL RETURN ODS	CAPACITY WATTS R404A & R22	DIMENSIONS mm	
					DIA.	LENGTH
BBJ00065	OS15-1	7/8"	3/8"	15200	168	305
BBJ00070	OS23-1	1-1/8"	3/8"	23600	168	355
BBJ00075	OS34-1	1-1/8"	3/8"	34400	168	425
BBJ00080	OS47-1	1-3/8"	3/8"	47600	168	425
BBJ00085	OS79-1	1-5/8"	3/8"	79000	220	485
BBJ00090	OS110-1	2-1/8"	3/8"	110000	220	585

NOTE:

- Manufactured to AS1210
- Models from 15000 to 140000 watts.
- Low pressure drop.
- All connections are ODS copper.
- Supplied with 3/8" ODS Rotalock oil return valve
- Special sizes designed and manufactured on request.
- Used with high side oil return float.
- Capacity rated @ -10°C saturated suction gas temperature and 40°C condensing temperature.
- Models OS15 to OS79 are base mounted with a 7/16" UNF bolt.
- Models OS110 is base mounted by 3 equally spaced 14 Dia. Holes @ 218 PCD.



Pressure vessels – cont'd

SUCTION ACCUMULATORS - HEAVY DUTY					
CATALOGUE NUMBER	MODEL NUMBER	INLET & OUTLET CONNECTIONS ODS	O/ALL DIMENSIONS mm		LIQUID HOLDING CAPACITY kg 70% FULL R404A @ -20°C
			DIA.	LENGTH	
BBJ00095	SA10-1	1-1/8"	168	425	5.6
BBJ00105	SA20-1	1-5/8"	220	485	12.9
BBJ00115	SA30-1	2-1/8"	220	585	16.5
BBJ00125	SA40-1	2-1/8"	220	785	22.3



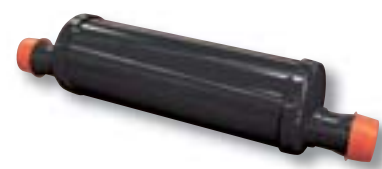
SELECTION TABLE (MAXIMUM CAPACITY IN WATTS)						
CATALOGUE NUMBER	MODEL NUMBER	SUCTION EVAPORATING TEMPERATURE °C				
		-40	-30	-20	-10	0
R404A/R507						
BBJ00095	SA10-1	5480	9660	15420	30240	43240
BBJ00105	SA20-1	8440	14820	23730	35700	51050
BBJ00115	SA30-1	15890	28250	45870	69600	99530
BBJ00125	SA40-1	23800	42500	68940	104450	149680
R22						
BBJ00095	SA10-1	6350	10740	16850	33040	46580
BBJ00105	SA20-1	9770	16470	25930	39010	54600
BBJ00115	SA30-1	18400	31390	50120	76050	108740
BBJ00125	SA40-1	27630	47230	75330	114130	163540

- NOTE:**
- Accumulators made to AS1210.
 - Low Pressure Drop.
 - Can be supplied with heat exchanger coils, where suction superheat is considered inadequate.
 - Larger sizes designed and manufactured to order.
 - For good oil return, do not select accumulators at less than 35% of maximum capacity in tables.
 - Rust resistant epoxy finish

SUCTION ACCUMULATORS - GENERAL PURPOSE						
CATALOGUE NUMBER	MODEL NUMBER	CONN. ODS	DIMENSIONS mm		LIQUID HOLDING CAPACITY (LITRES)	WORKING PRESSURE kPa
			DIAM.	O/ALL LENGTH		
DAA00021	3100-083007	1/2"	76	200	0.7	2500
DAA00070	3100-104016	5/8"	102	218	1.8	2500
DAA00075	3100-124016	3/4"	102	244	1.6	2500
DAA00080	3100-125029	3/4"	127	288	2.4	2500
DAA00090	3100-145034	7/8"	128	300	3.4	2500
DAA00095	3100-186055	1-1/8"	159	390	5.5	2500
DAA00100	3100-186063	1-1/8"	159	470	6.3	2500
DAA00105	3100-226071	1-3/8"	159	460	7.1	2500



DISCHARGE LINE MUFFLERS					
CATALOGUE NUMBER	MODEL NUMBER	INLET & OUTLET CONNECTIONS ODS	DIMENSIONS mm		WORKING PRESSURE kPa
			DIA.	LENGTH	
HELDON					
DAC00102	3400-3208	1/2"	50	188	2700
DAC00103	3400-3210	5/8"	50	188	
DAC00105	3400-4814	7/8"	76	292	
DAC00107	3400-6422	1-3/8"	102	368	
DAC00108	3400-6426	1-5/8"	102	380	
DAC00110	3400-9642	2-5/8"	152	555	



- NOTE:**
- Mufflers have internal baffles designed for minimum pressure drop. These baffles change the velocity of the discharge gasses passing through the muffler, which results in a dampening effect on high frequency sound waves on high speed compressors. Pulsating waves are also muffled in both low and high speed compressors.
 - Select a muffler with a connection size the same or greater than the compressor discharge line.
 - Off-set connections enable vertical, horizontal and angle mounting. When mounting in the horizontal or angle position the side with the label must be top centre for proper flow of the oil. The outlet should be lower than the inlet where possible or the muffler may collect oil, which may result in loss of oil in the compressor. Muffler mounted vertically will not trap oil.
 - All mufflers are bi-directional, therefore there is no inlet or outlet.

Pressure vessels – cont'd



LIQUID RECEIVER - HORIZONTAL					
CATALOGUE NUMBER	MODEL NUMBER	INLET & OUTLET CONNECTIONS ODS	DIMENSIONS mm		PUMP DOWN CAPACITY KG 80% FULL @ 32°C kg R22
			DIA.	LENGTH	
BBJ00005	HR27-2	3/4"	220	920	27
BBJ00010	HR40-2	1-1/8"	220	1320	40
BBJ00015	HR100-1	1-3/8"	350	1100	100
BBJ00020	HR130-2	1-3/8"	350	1100	130
BBJ00025	HR170-2	1-3/8"	400	1400	170
BBG01185	HR225-2	1-3/8"	450	1400	225



LIQUID RECEIVER - VERTICAL					
CATALOGUE NUMBER	MODEL NUMBER	INLET & OUTLET CONNECTIONS ODS	DIMENSIONS mm		PUMP DOWN CAPACITY KG 80% FULL @ 32°C kg R22
			DIA.	LENGTH	
BBJ00035	VR40-2	1-1/8"	220	1340	40
BBJ00040	VR100-1	1-3/8"	350	1120	100
BBJ00045	VR130-1	1-3/8"	350	1420	130
BBJ00050	VR170-1	1-3/8"	400	1450	170
BBJ00055	VR225-1	1-3/8"	450	1555	225
BBJ00060	VR335-1	1-3/8"	500	1840	335

NOTE:

- Receiver manufactured to AS1210.
- All ports are plugged and must be soldered on-site if not used.
- Models HR50 to HR495 include offset sightglasses for high and low liquid level - others on request.
- Sightglasses available for HR12 an HR40 available on request.
- Horizontal receiver mounting feet can be changed to make vessels suitable for underslung or wall mount.
- All models fitted with inlet & outlet Rotalock valves
- Larger capacities can be designed and manufactured on request.
- Port location, size and quantity can be modified to suit particular applications.



LIQUID RECEIVER - GENERAL PURPOSE							
CATALOGUE NUMBER	MODEL NUMBER	CONNECTIONS		DIMENSIONS mm		VOLUME Ltr	WORKING PRESSURE kPa
		INLET ODS	OUTLET MF	DIA.	LENGTH		
DAC00001	3310-064014	1/4" I.D.	3/4" R/LOCK	100	200	1.4	3000
DAC00005	3310-064724A	3/8" I.D.	3/4" R/LOCK	120	250	2.4	3000
DAC00015	3310-084724	1/2" I.D.	3/4" R/LOCK	120	250	2.4	3000
DAC00025	3310-105544	1/2" I.D.	3/4" R/LOCK	140	340	4.4	3000
DAC00035	3310-167082	1" R/LOCK	1" R/LOCK	180	400	8.2	3000
DAC00045	3310-1670109	1" R/LOCK	1" R/LOCK	180	510	10.9	3000
DAC00055	3310-1686145	1" R/LOCK	1" R/LOCK	220	415	14.5	3000