CRYOGENIC DIVISION	REF.	STANDARD VRV
	VRV type	RMP: Riscaldatore Media Pressione
	DATA SHEET	Ambient Air Vaporizers

Type	Natural draft		
Fluid	LIN-LOX-LAR-LNG-CO2		
Design code	ASME VIII Div.1		
U-STAMP	NOT APPLICABLE: it is a vessel consisted of pipes with internal diameter less than 150 mm		
CE-STAMP	YES		
Module	B		
Category	D		
Notify Body	LLRR		
WPS/PQR	ASME IX		
Non destructive test	ASME V		
Design pressure	40	barg	
Test pressure	44	barg	
Design temperature	-196÷50	°C	
Corrosion allowance	0	mm	
Joint efficency	0,6		
Material	Aluminium equivalent to ASTM		
finned tubes	AW-6060 (EN 755-2)		
header & flanges	AW-6082 (EN 755-2)		
counter flanges	ASTM A182 TP.304		
Surface treatment	Not to be anodized or painted		
Cleaning	degreasing per oxygen service		
Installation	vertical		
Support system	legs		
	clip-on	for models whose name ends with S	
Drawing	see table		
External dimensions	see table		
Number of pipe	see table		
Capacity	see table		
External surface	see table		
Empty weight	see table		
Inlet connection	see table	type	EN 1092 - Flange Type 01 - Facing Type C - PN 40
Outlet connection	see table	type	EN 1092 - Flange Type 01 - Facing Type C - PN 40
Flowrate	see table		
	calculated in the following conditions:		
Ambient temperature	20	°C	
Running time	8	h	
Defrosting time	8	h	
Relative humidity	70%		
Outlet temperature	10 °C below ambient temperature		
Operating pressure	1	barg	for LIN-LOX-LAR-LNG
	19	barg	for CO2
Tests	Pneumatic test =		Design Pressure x 1,1
	Penetrant test		100%
	Visual examination		100%
	X-ray		0%
Documentation	Declaration of conformity to PED, 97/23/EN		
	Operating Manual		

CRYOGENIC DIVISION					VRV standard Ambient Air Vaporizers								Design Pressure 40 barg				
	N°	TYPE	DWG	Pipes N°	LIN flow Nm^3/h	LOX flow Nm^3/h	LAR flow Nm^3/h	LNG flow Nm^3/h	CO_2 flow kg/h	Width mm	Lenght mm	Height mm	Capacity lt	Ext. surface m^2	Weight kg	Inlet DN	Outlet DN
Ambient Air Vaporisers	1	RMP 40/3G	15071 C2	4	46	40	50	32	34	672	672	4.068	6	12	75	15	15
	2	RMP 60/3G	15072 C1	6	70	60	75	48	51	755	672	4.068	9	18	90	15	20
	3	RMP 80/3G	15073 C2	8	95	80	100	64	68	838	622	4.068	12	24	120	15	20
	4	RMP 100/3G	15074 C1	10	115	100	125	80	85	1.074	622	4.068	15	30	145	20	20
	5	RMP 120/3G	15075 C1	12	140	120	150	96	102	838	883	4.068	18	36	168	20	25
	6	RMP 160/3	15076 C0	16	185	160	200	128	136	838	1.000	4.071	26	48	215	20	25
	7	RMP 180/3	15077 C0	18	210	180	225	144	153	1.310	850	4.071	28	54	245	25	25
	8	RMP 240/3	15078 C0	24	280	240	300	192	204	1.310	1.000	4.071	37	72	300	20	25
	9	RMP 320/3	15079 C0	32	370	320	400	256	272	1.782	998	4.071	50	96	410	25	40
	10	RMP 400/3	15080 C0	40	460	400	500	320	340	2.254	998	4.071	63	120	510	25	40
	11	RMP 500/3	15081 C0	50	570	500	625	400	425	2.254	1.234	4.071	78	150	620	32	50
	12	RMP 600/3	15082 C0	60	690	600	750	480	510	2.254	1.470	4.071	95	180	735	32	50
	13	RMP 700/3	15083 C0	70	800	700	875	560	595	2.254	1.706	4.071	110	210	880	32	50
	14	RMP 800/3	15084 C0	80	920	800	1.000	640	680	2.254	1.942	4.071	134	240	1.000	50	80
	15	RMP 900/3	15085 C0	90	1.030	900	1.130	720	765	2.254	2.178	4.071	150	270	1.120	50	80
	16	RMP 160/4	15060 C0	16	255	220	275	176	187	838	1.000	5.071	32	64	270	20	25
	17	RMP 180/4	15061 C0	18	280	240	300	192	204	1.310	850	5.071	36	72	310	25	25
	18	RMP 240/4	15062 C0	24	370	320	400	256	272	1.310	1.000	5.071	48	96	400	20	25
	19	RMP 320/4	15063 C0	32	500	430	540	344	366	1.782	998	5.071	65	128	520	25	40
	20	RMP 400/4	15064 C0	40	620	540	675	432	459	2.254	998	5.071	81	160	650	25	50
	21	RMP 500/4	15065 C0	50	770	670	840	536	570	2.254	1.234	5.071	101	200	800	32	50
	22	RMP 600/4	15066 C0	60	920	800	1.000	640	680	2.254	1.470	5.071	122	240	950	32	50
	23	RMP 700/4	15067 C0	70	1.100	950	1.180	760	808	2.254	1.706	5.071	142	280	1.125	32	50
	24	RMP 800/4	15068 C0	80	1.230	1.070	1.350	856	910	2.254	1.942	5.071	170	320	1.285	50	80
	25	RMP 900/4	15069 C0	90	1.380	1.200	1.500	960	1.020	2.254	2.178	5.071	191	360	1.440	50	80
	26	RMP 400/6	15094 C2	40	920	800	1.000	640	680	1.782	1.220	7.071	117	240	970	32	50
	27	RMP 500/6	15095 C2	50	1.140	1.000	1.250	800	850	2.254	1.234	7.071	146	300	1.200	32	50
	28	RMP 600/6	15096 C1	60	1.380	1.200	1.500	960	1.020	2.254	1.470	7.071	179	360	1.438	50	80
	29	RMP 700/6	15097 C1	70	1.600	1.400	1.750	1.120	1.190	2.254	1.701	7.071	208	420	1.690	50	80
	30	RMP 800/6	15098 C1	80	1.850	1.600	2.000	1.280	1.360	2.254	1.942	7.071	243	480	1.990	50	80
	31	RMP 960/6	15099 C1	96	2.200	2.000	2.400	1.600	1.700	2.726	1.942	7.071	300	576	2.350	50	80

Calculation based on :

Operating ambient temperature	*+20°C*
Operating time	*8 hours*
Defrosting time	*8 hours*

	CRYOGENIC DIVISION				VRV standard Ambient Air Vaporizers								Design Pressure 40 barg				
	N°	TYPE	DWG	Pipes N°	LIN flow Nm^3/h	LOX flow Nm^3/h	LAR flow Nm^3/h	LNG flow Nm^3/h	CO_2 flow kg/h	Width mm	Lenght mm	Height mm	Capacity lt	Ext. surface m^2	Weight kg	Inlet DN	Outlet DN
Pressure Building Coils	32	RMP 80/C10	15152 C1	8	35	30	40	24	26	1.110	639	1.768	6	8	55	25	25
	33	RMP 120/C10	15153 C1	12	45	40	50	32	34	838	858	1.768	8	12	75	20	25
	34	RMP 160/C10	15145 C1	16	65	55	70	44	47	838	1.015	1.768	9	16	95	20	25
	35	RMP 180/C10	15134 C1	18	70	60	75	48	51	1.531	858	1.768	10	18	105	25	25
	36	RMP 240/C10	15146 C1	24	90	80	100	64	68	1.310	982	1.768	13	24	130	25	25
	37	RMP 320/C10	15144 C1	32	130	110	140	88	94	1.782	982	1.768	17	32	180	25	32
	38	RMP 400/C10	15147 C1	40	155	135	170	108	115	2.254	982	1.768	25,5	40	230	25	25
	39	RMP 500/C10	15100 C1	50	200	170	215	136	145	2.254	1.220	1.768	34	50	260	32	50
	40	RMP 600/C10	15148 C1	60	230	200	250	160	170	2.254	1.456	1.768	41	60	310	32	50
	41	RMP 700/C10	15149 C1	70	270	235	300	188	200	2.254	1.692	1.768	47	70	370	32	50
	42	RMP 800/C10	15150 C1	80	310	270	340	216	230	2.254	1.928	1.768	62	80	430	32	50
	43	RMP 900/C10	15151 C1	90	345	300	375	240	255	2.254	2.164	1.768	69	90	480	32	50
Clip on	44	RMP 40/3S	15086 C1	4	46	40	50	32	34	1.295	371	3.314	6	12	62	15	15
	45	RMP 60/3S	15087 C1	6	70	60	75	48	51	1.506	371	3.314	9	18	75	15	20
	46	RMP 80/3S	15088 C1	8	95	80	100	64	68	1.295	604	3.314	12	24	108	15	20
	47	RMP 100/3S	15089 C1	10	115	100	125	80	85	1.295	604	3.314	15	30	130	20	20
	48	RMP 120/3S	15090 C1	12	140	120	150	96	102	1.413	604	3.314	18	36	155	20	25
	49	RMP 160/3S	15091 C0	16	185	160	200	128	136	1.425	840	3.314	24	48	203	20	25

Calculation based on :

Operating ambient temperature	*+20°C*
Operating time	*8 hours*
Defrosting time	*8 hours*