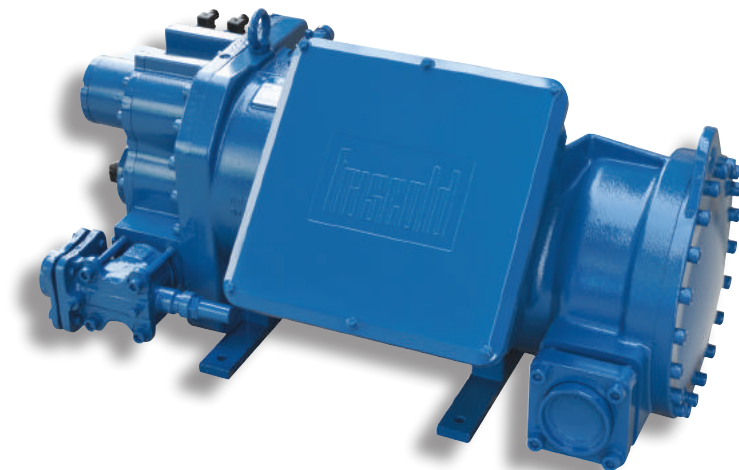


Frascold[®]

RTS-NR

Semi-hermetic screw compressors
for refrigeration

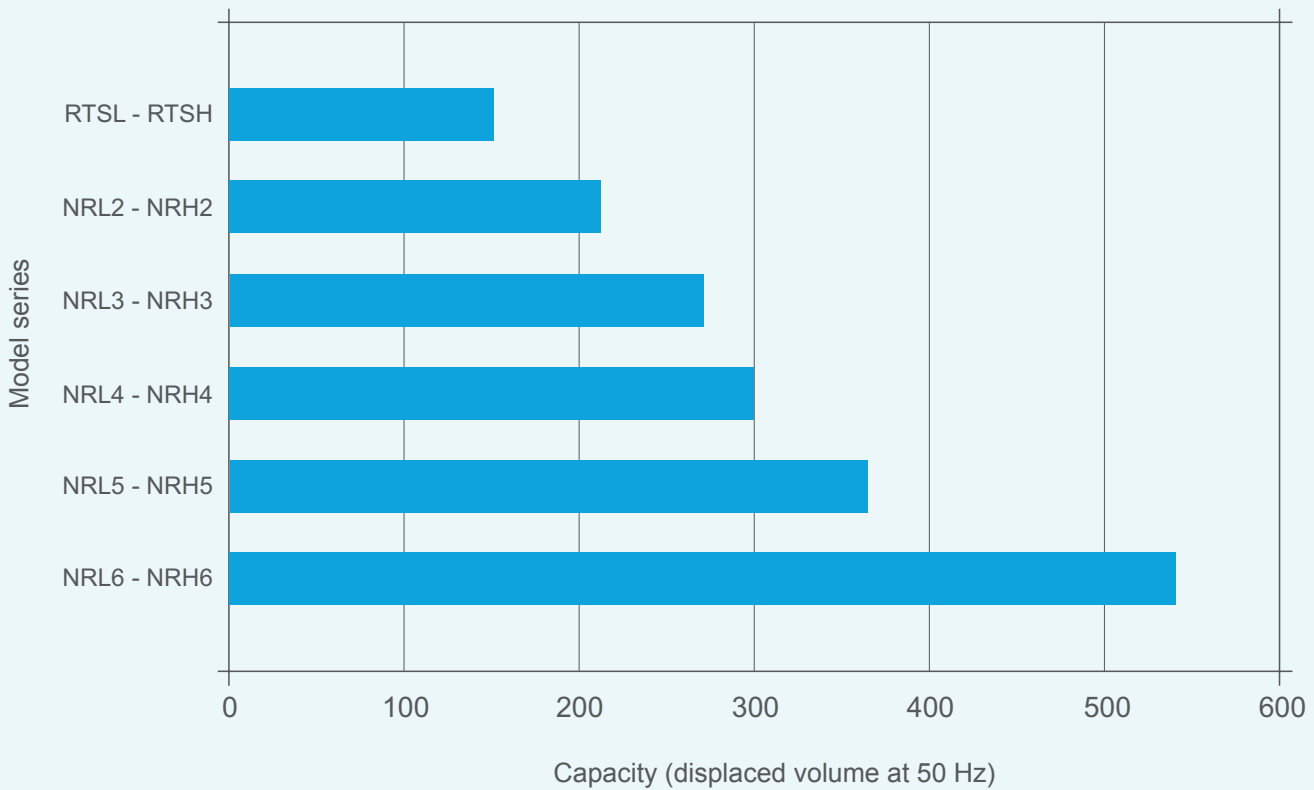


Range of models

The range of RTS-NR compressors involves a large range of models with capacities from 120 to 538 m³/h at 50 Hz. In order to select the suitable model, use this catalogue, the Frascold selection software and the numerous publications available on www.frascold.it.

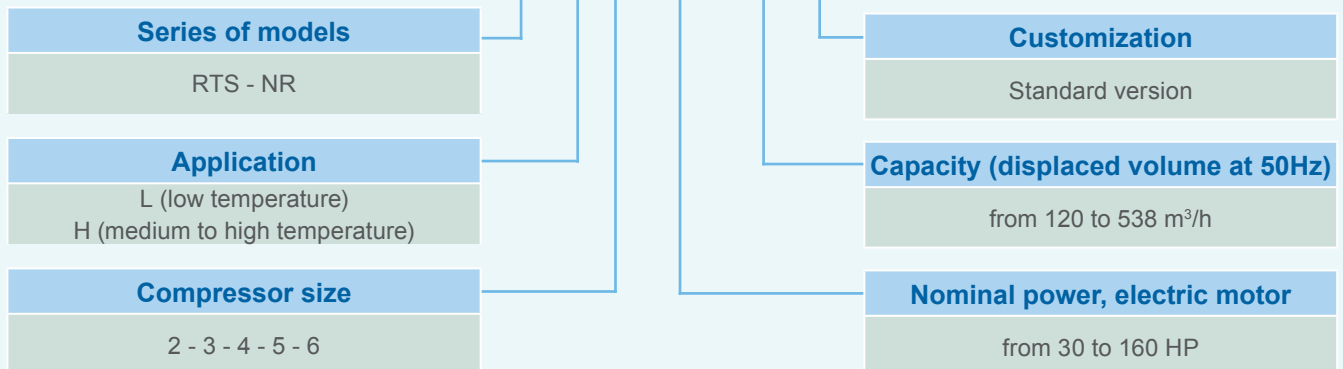
Current program:

6 main series, 34 models with 13 displacements from 120 to 538 m³/h (50 Hz)



Model name

NR L 3 - 70 - 240 Y



Special characteristics

Capacity control: The capacity control system allows to adjust the displacement with great precision, ensuring the real needs of the refrigeration plant.

High efficiency: 80 years of experience and world wide applications have created line of compressors with an elevated COP over the whole range of operation, optimising the efficiency of the systems in which they are used.

Heightened flexibility: a wide range of versions available, a vast range of accessories offered and capability to operate with HFC / HFO blends / HCFC refrigerants.

Installation and access facilitated: Their intelligent design permits ease of putting into operation and makes management of maintenance simple.



Economiser: All the models are supplied with a port for economiser, liquid injection connection in order to supply greater refrigeration capacity to the system.


Noise level: Mechanical optimization of components and their fine machining ensures, under all conditions of use, low levels of noise and absence of vibrations.

Total reliability: The robust construction, precision machining, the high quality of components used and compliance with quality standards in the production plant, make this range of compressors capable of a long operational life, even under extreme conditions.

Lubrication circuit / oil injection: The fundamental function of lubrication is assured by accurately calibrated oil passages creating an optimal fluid dynamic lubrication film between the rotors and other mechanical components and also aiding cooling.

Information plate

All important information for the identification of the compressor is printed on the plate. The production date is incorporated within the series number. Indication of the type of refrigerant is under the responsibility of the installer.

frascold [®]			Type	NRL3-70-240Y	
			Nr.	8M001001	
Hz	Displ. m ³ /h	RPM	Max. Operating Disch. Pressure		bar 30
50	240	2900	Max. Static Suct. Pressure		bar 20,5
60	288	3500			
			3~		
Volt		Hz	MRA		LRA
PW			PW	PWS	DOL
380-420		50	122	298	518
440-480		60	122	298	518
 Frascold S.p.A. NL0702408HM001001 MADE IN ITALY					

Capacity (displaced volume at m³/h)

Electrical data

Bar code (compressor serial number)

Compressor model

Series number

Maximum operational pressures

Conformity marking

Bar code (Compressor identification number)

Technical data

Model	Motor version	Displacement m ³ /h ③		Capacity control ④	Electrical data			Pipe connections				Weight kg ⑨
					Max power consumption kW ⑤	MRA A ⑥	LRA A ⑦	Suction		Discharge		
		inch	mm					inch	mm			
		① ②	50 Hz		60 Hz	④	⑤	⑥	⑦	⑧		
RTSL-30-120Y	2			Step (100% - 75%)	34,8	51	201	2 ¹ / ₈ "	54	1 ⁵ / ₈ " *	42	175
RTSH-30-120Y	3	120	144		35,7	52	235	2 ¹ / ₈ "	54	1 ⁵ / ₈ " *	42	175
RTSH-40-120Y	1				55,2	85	266	2 ¹ / ₈ "	54	1 ⁵ / ₈ " *	42	180
RTSL-40-150Y	2				42,9	68	235	2 ¹ / ₈ "	54	1 ⁵ / ₈ " *	42	226
RTSH-40-150Y	3	150	180		36,7	61	266	2 ¹ / ₈ "	54	1 ⁵ / ₈ " *	42	226
RTSH-50-150Y	1				70,5	108	319	2 ¹ / ₈ "	54	1 ⁵ / ₈ " *	42	230
NRL2-50-186Y	2			Step (100% - 75% - 50%)	58,0	89	203	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	244
NRH2-50-186Y	3	186	223		43,6	71	256	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	244
NRH2-60-186Y	1				82,1	122	298	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	250
NRL2-60-210Y	2				70,9	108	256	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	290
NRH2-60-210Y	3	210	252		49,6	81	298	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	290
NRH2-70-210Y	1				87,3	140	373	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	298
NRL3-70-240Y	2				82,2	122	298	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	316
NRH3-70-240Y	3	240	288		59,3	97	373	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	316
NRH3-80-240Y	1				110,7	157	423	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	320
NRL3-80-270Y	2				94,8	140	373	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	317
NRH3-80-270Y	3	270	324		66,1	108	423	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	317
NRH3-90-270Y	1				120,6	177	401	3 ¹ / ₈ " *	80	2 ¹ / ₈ "	54	325
NRL4-90-300Y	2				105,1	157	423	3 ¹ / ₈ " *	80	2 ⁵ / ₈ " *	67	340
NRH4-90-300Y	3	300	360		73,5	119	401	3 ¹ / ₈ " *	80	2 ⁵ / ₈ " *	67	340
NRH4-100-300Y	1				139,8	194	492	3 ¹ / ₈ " *	80	2 ⁵ / ₈ " *	67	348
NRL5-100-360Y	2				121,4	177	401	3 ¹ / ₈ " *	80	2 ⁵ / ₈ " *	67	344
NRH5-100-360Y	3	360	432		83,5	136	492	3 ¹ / ₈ " *	80	2 ⁵ / ₈ " *	67	344
NRH5-120-360Y	1				149,7	230	559	3 ¹ / ₈ " *	80	2 ⁵ / ₈ " *	67	353
NRH6-110-316Y	1	316	379	83,0	184	434	4 ¹ / ₈ "	104	3 ¹ / ₈ " *	80	730	
NRH6-110-372Y	3			83,0	184	434	4 ¹ / ₈ "	104	3 ¹ / ₈ " *	80	731	
NRH6-125-372Y	1	372	446	95,0	218	530	4 ¹ / ₈ "	104	3 ¹ / ₈ " *	80	734	
NRL6-125-428Y	2			93,0	198	530	4 ¹ / ₈ "	104	3 ¹ / ₈ " *	80	735	
NRH6-115-428Y	3	428	514	85,0	184	434	4 ¹ / ₈ "	104	3 ¹ / ₈ " *	80	732	
NRH6-140-428Y	1			105,0	245	587	4 ¹ / ₈ "	104	3 ¹ / ₈ " *	80	742	
NRH6-125-468Y	3			93,0	218	282	4 ¹ / ₈ "	104	3 ¹ / ₈ " *	80	736	
NRH6-160-468Y	1	468	562	120,0	530	729	4 ¹ / ₈ "	104	3 ¹ / ₈ " *	80	749	
NRL6-160-538Y	2			120,0	282	729	4 ¹ / ₈ "	104	3 ¹ / ₈ " *	80	762	
NRH6-140-538Y	3	538	646	105,0	245	587	4 ¹ / ₈ "	104	3 ¹ / ₈ " *	80	749	

- ① Motor size: see operating limits
 ② 400V± 10% / 3 / 50Hz // 460V± 10% / 3 / 60Hz // Part Winding (50-50) - Other voltages on request
 ③ 50 Hz = 2900 min⁻¹.
 60 Hz = 3500 min⁻¹.
 ④ The effective partial load depends on operating conditions
 ⑤ Adjust the size of contactors, cables and fuses taking into consideration the maximum operating current
 ⑥ MRA = maximum operating current per connection PWS 400V
 ⑦ LRA = maximum start-up current (blocked rotor test) for connection PWS 400V
 ⑧ Valves with solder connections
 ⑨ Net weight of compressor (does not include the oil injection kit and other accessories)
 * On request

Semi-hermetic screw compressors

Performance R404A - R507A [50 Hz] low temperature

Compressor	Motor version	Cond. Temp. [°C]	Qo [Watt] = Cooling capacity Pe [kW] = Power consumption ①	Evaporating temperature [°C]							
				-15	-20	-25	-30	-35	-40	-45	-50
RTSL-30-120Y	2	30	Qo	64246	52025	41604	32801	25434	19323	14286	10143
			Pe	24,72	22,80	20,81	18,90	17,18	15,78	14,82	14,44
		40	Qo	53831	43222	34234	26686	20397	15185	10871	7272
			Pe	27,92	25,65	23,44	21,43	19,73	18,48	17,80	17,81
		50	Qo		34108	26642	20438	15316	11093		
			Pe		28,45	26,17	24,20	22,67	21,72		
RTSL-40-150Y	2	30	Qo	78888	64003	51312	40592	31624	24185	18056	13015
			Pe	30,92	28,49	26,06	23,73	21,62	19,84	18,51	17,75
		40	Qo	66743	53729	42699	33434	25712	19313	14015	9597
			Pe	34,62	31,75	29,04	26,60	24,56	23,02	22,11	21,94
		50	Qo	53991	42940	33666	25950	19569	14302		
			Pe	38,67	35,49	32,65	30,25	28,42	27,27		
NRL2-50-186Y	2	30	Qo	96650	78451	62926	49805	38820	29699	22173	15972
			Pe	38,07	35,09	32,07	29,17	26,55	24,35	22,76	21,91
		40	Qo	81697	65799	52320	40989	31537	23694	17190	11756
			Pe	42,65	39,10	35,73	32,69	30,14	28,24	27,16	27,04
		50	Qo	66027	52543	41222	31793	23987	17534		
			Pe	47,47	43,57	40,07	37,11	34,87	33,49		
NRL2-60-210Y	2	30	Qo	109784	89070	71409	56492	44010	33654	25114	18081
			Pe	43,61	40,19	36,67	33,27	30,19	27,64	25,81	24,92
		40	Qo	92781	74681	59347	46467	35733	26836	19467	13316
			Pe	48,81	44,82	40,95	37,42	34,42	32,16	30,85	30,70
		50	Qo	75021	59653	46760	36034	27164	19842		
			Pe	53,77	49,51	45,59	42,21	39,60	37,94		
NRL3-70-240Y	2	30	Qo	126241	102474	82212	65097	50775	38890	29087	21009
			Pe	51,11	47,30	43,39	39,60	36,15	33,28	31,20	30,14
		40	Qo	106731	85970	68380	53604	41287	31074	22609	15536
			Pe	57,02	52,51	48,17	44,22	40,88	38,38	36,94	36,78
		50	Qo	86248	68653	53894	41616	31464	23082		
			Pe	63,12	58,22	53,76	49,96	47,03	45,20		
NRL3-80-270Y	2	30	Qo	142480	115685	92837	73537	57387	43987	32939	23843
			Pe	58,06	53,75	49,34	45,06	41,18	37,93	35,58	34,36
		40	Qo	120514	97100	77258	60589	46693	35173	25629	17662
			Pe	64,79	59,72	54,84	50,40	46,66	43,85	42,23	42,04
		50	Qo	97512	77643	60971	47096	35619	26142		
			Pe	71,65	66,13	61,10	56,82	53,52	51,46		
NRL4-90-300Y	2	30	Qo	157209	127600	102369	81067	63249	48467	36275	26226
			Pe	65,16	60,38	55,47	50,71	46,39	42,78	40,16	38,82
		40	Qo	132999	107114	85193	66790	51456	38747	28214	19412
			Pe	72,41	66,82	61,42	56,50	52,33	49,19	47,37	47,13
		50	Qo	107641	85661	67233	51909	39242	28787		
			Pe	79,94	73,92	68,40	63,68	60,02	57,73		
NRL5-100-360Y	2	30	Qo	191046	155067	124407	98524	76877	58927	44130	31948
			Pe	74,57	68,82	62,92	57,21	52,01	47,66	44,47	42,79
		40	Qo	161687	130231	103590	81224	62591	47152	34364	23687
			Pe	83,40	76,71	70,24	64,35	59,35	55,58	53,37	53,04
		50	Qo	130906	104200	81807	63186	47796	35095		
			Pe	92,61	85,34	78,70	73,00	68,59	65,79		
NRL6-125-428Y	2	30	Qo	233475	188345	150221	118368	92052	70538	53093	38983
			Pe	85,12	78,59	72,69	67,53	63,19	59,77	57,37	56,09
		40	Qo	198646	158766	125340	97634	74913	56443	41491	29321
			Pe	94,35	87,82	81,93	76,78	72,47	69,10	66,75	65,52
		50	Qo	160368	126071	97677	74452	55661	40569		
			Pe	106,13	99,42	93,37	88,07	83,62	80,12		
NRL6-160-538Y	2	30	Qo	285358	230981	184836	146065	113812	87217	65424	47574
			Pe	101,31	95,23	90,08	85,68	81,85	78,40	75,14	71,89
		40	Qo	241429	193908	153874	120468	92832	70109	51441	35970
			Pe	116,48	110,48	105,30	100,76	96,66	92,82	89,06	85,19
		50	Qo	194231	153799	120108	92298	69513	50894		
			Pe	135,94	129,81	124,38	119,47	114,88	110,45		

① Suction gas superheating 10K without liquid subcooling

The performance refers to European Standard EN12900 and with operation at 50Hz; conversion factor at 60Hz = 1.2.

For performance calculations at operating points, refer to Frascold Selection Software.

All data published is provisional and liable to variations.

■ In this field, supplementary cooling is necessary.

Performance R404A - R507A [50 Hz] low temperature with economiser

Compressor	Motor version	Cond. Temp. [°C]	Qo [Watt] = Cooling capacity Pe [kW] = Power consumption ①	Evaporating temperature [°C]							
				-15	-20	-25	-30	-35	-40	-45	-50
RTSL-30-120Y	2	30	Qo	79430	66481	55000	44906	36099	28465	21870	16157
			Pe	28,60	26,75	24,74	22,70	20,77	19,07	17,76	16,94
		40	Qo			50583	41077	32753	25475	19082	13378
			Pe			29,21	26,86	24,72	22,93	21,61	20,86
		50	Qo					29104	22231		
			Pe					29,51	27,63		
RTSL-40-150Y	2	30	Qo	97533	81787	67834	55573	44884	35628	27641	20732
			Pe	35,68	33,36	30,90	28,43	26,08	23,97	22,22	20,96
		40	Qo		76300	63091	51465	41288	32399	24601	17657
			Pe		39,20	36,23	33,41	30,85	28,69	27,02	25,95
		50	Qo				46853	37186	28663		
			Pe				39,92	37,15	34,90		
NRL2-50-186Y	2	30	Qo	119493	100249	83188	68186	55097	43750	33943	25442
			Pe	43,91	41,06	38,01	34,94	32,02	29,42	27,31	25,85
		40	Qo	111634	93441	77306	63095	50642	39749	30175	21628
			Pe	51,90	48,22	44,54	41,03	37,86	35,19	33,18	31,96
		50	Qo			70848	57403	45582	35139		
			Pe			52,88	48,96	45,56	42,84		
NRL2-60-210Y	2	30	Qo	135731	113818	94403	77341	62464	49576	38445	28801
			Pe	50,24	46,96	43,41	39,82	36,40	33,38	30,97	29,37
		40	Qo	126780	106055	87689	71527	57380	45020	34171	24497
			Pe	59,31	55,17	50,95	46,87	43,16	40,03	37,68	36,27
		50	Qo		97762	80367	65060	51619	39765		
			Pe		64,94	60,13	55,64	51,71	48,52		
NRL3-70-240Y	2	30	Qo	156077	130947	108684	89121	72066	57290	44527	33465
			Pe	58,74	55,09	51,15	47,14	43,32	39,92	37,18	35,32
		40	Qo	145842	122086	101036	82513	66299	52130	39686	28583
			Pe	69,10	64,43	59,69	55,13	50,98	47,49	44,86	43,28
		50	Qo		112511	92628	75139	59791	46258		
			Pe		75,99	70,52	65,47	61,06	57,51		
NRL3-80-270Y	2	30	Qo	176155	147829	122731	100677	81450	64798	50423	37979
			Pe	66,67	62,55	58,10	53,58	49,27	45,44	42,34	40,23
		40	Qo	164676	137892	114155	93265	74980	59006	44987	32494
			Pe	78,43	73,18	67,86	62,73	58,08	54,16	51,21	49,43
		50	Qo		127245	104791	85033	67686	52391		
			Pe		86,22	80,06	74,37	69,40	65,40		
NRL4-90-300Y	2	30	Qo	194364	163054	135331	110985	89770	71398	55531	41774
			Pe	74,65	70,08	65,13	60,10	55,31	51,05	47,62	45,28
		40	Qo	181736	152113	125879	102810	82629	65002	49525	35713
			Pe	87,47	81,67	75,78	70,09	64,92	60,55	57,26	55,26
		50	Qo		140385	115553	93723	74571	57690		
			Pe		96,08	89,30	83,02	77,53	73,08		
NRL5-100-360Y	2	30	Qo	236199	198153	164466	134885	109114	86806	67556	50889
			Pe	86,11	80,61	74,66	68,63	62,86	57,71	53,54	50,66
		40	Qo	220937	184940	153062	125029	100509	79102	60321	43579
			Pe	101,71	94,76	87,70	80,88	74,67	69,41	65,41	62,95
		50	Qo			140602	114084	90825	70333		
			Pe			104,13	96,55	89,90	84,50		
NRL6-125-428Y	2	30	Qo	288655	240678	198592	162053	130651	103912	81277	62094
			Pe	99,23	92,91	86,87	81,24	76,18	71,81	68,28	65,69
		40	Qo	271439	225463	185199	150288	120295	94689	72831	53944
			Pe	116,85	109,83	103,04	96,65	90,80	85,65	81,29	77,79
		50	Qo				134425	105770	81302		
			Pe				115,82	108,45	101,75		
NRL6-160-538Y	2	30	Qo	352801	295159	244353	199971	161535	128482	100153	75780
			Pe	118,55	112,79	107,52	102,61	97,91	93,29	88,58	83,61
		40	Qo	329899	275369	227360	185437	149070	117615	90297	66177
			Pe	143,82	137,37	131,23	125,27	119,37	113,38	107,10	100,24
		50	Qo		252053	206430	166647	132093	101993		
			Pe		169,60	161,72	153,86	145,89	137,59		

① Suction gas superheating 10K without liquid subcooling

The performance refers to European Standard EN12900 and with operation at 50Hz; conversion factor at 60Hz = 1.2.

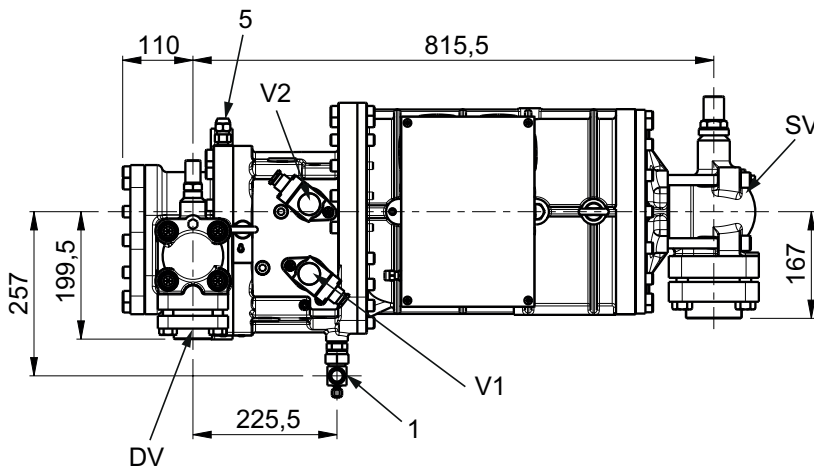
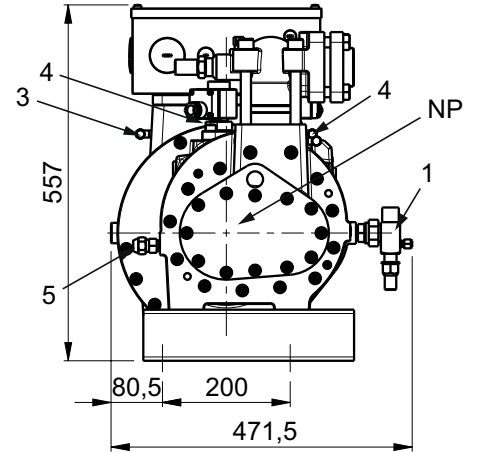
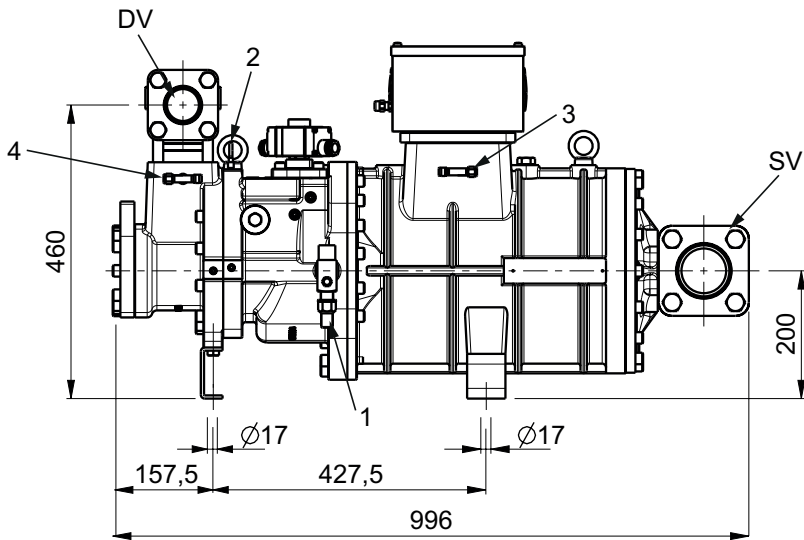
For performance calculations at operating points, refer to Frascold Selection Software.

All data published is provisional and liable to variations.

■ In this field, supplementary cooling is necessary.

Dimensional drawings and connections

Models **NRL2**
NRH2



1	Oil return connection	
2	Discharge temperature sensor	
3	Low pressure connection	
4	High pressure connection	
5	Connection for ECO / liquid injection	½" SAE
V1	Capacity control valve (step 1)	
V2	Capacity control valve (step 2)	
SV	Suction valve	ø 3" ½* - 80 mm
DV	Discharge valve	ø 2" ½ - 54,0 mm
NP	Information plate	

* On request



1936 - 2016

Celebrating 80 years of innovation



Blue is better

Headquarters and production

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