PPUCh TARCZYN

PRODUKT POLSKI

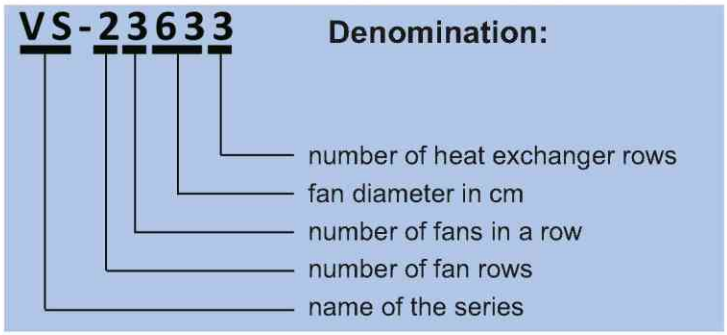
VS-SERIES AIR COOLED CONDENSERS

PRZEDSIĘBIORSTWO PRODUKCJI URZĄDZEŃ CHŁODNICZYCH TARCZYN SP. Z O.O.
ul. Błońska 85, 05-555 Tarczyn
tel. +48 22 727 86 86
fax: +48 22 727 81 61
kom. +48 697 702 206
www.ppuch.pl
info@ppuch.pl

Application:
VS-series air cooled condensers with capacities between 110.8kW and 726.5kW are dedicated to Freon cooling systems. The capacities in the tables are calculated for R 404A with ambient temperature at 25°C, condensation point at 40°C, and temperature difference Δt = 15K.

Design:
The condenser coils are built with 1/2" internally finned copper tubes mechanically expanded inside aluminium fins which are equipped with flanges covering the whole fin spacing distance, thus ensuring perfect thermal contact. All coils are tested at 30 bar pressure and filled with dry nitrogen to a slight overpressure. Galvanized steel casing painted with RAL 9016.

Fan characteristics:
- ø630 – 1900W/400V



Power calculation for the required working conditions:

$$Q_{rz} = Q_{st} * Wk * Wo * Wr * Wh * Wm$$

Q_{rz} - real capacity of the condenser in the required conditions
Q_{st} - condenser capacity from the table (standard working conditions)
Wk - correction coefficient for different cooling agents

Cooling agent			
R404A ; R507	R22	R134a	R407C
1,00	**0,96**	**0,93**	**0,87**

Wo - correction coefficient for different ambient temperatures

Ambient temperature							
15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
1,03	**1,02**	**1**	**0,99**	**0,97**	**0,95**	**0,94**	**0,93**

Wr - correction coefficient for the difference between the condensation point and ambient temperature

Wr / Δt(K)	8	9	10	11	12	13	14	15	16	17	18	19	20
R22; R134a; R404A; R507	0,53	0,60	0,67	0,73	0,80	0,87	0,93	1,00	1,07	1,13	1,20	1,27	1,33
R407C	0,46	0,54	0,62	0,69	0,77	0,85	0,93	1,00	1,08	1,15	1,23	1,31	1,38

Wh - correction coefficient for different elevations above sea level

Elevation	0	600	800	1000	1200	1400	1600	1800	2000
Wh	1,00	0,96	0,94	0,93	0,91	0,90	0,88	0,87	0,85

Wm - correction coefficient for different fin materials

Material	Aluminium	Epoxy-coated aluminium	Copper
Wm	1,00	0,97	1,03

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VS-series condensers with ø630 fans

Type	Capacity [kW]	Air flow [m^3/h]	Noise [dB(A)]	Inlet [mm]	Outlet [mm]	Surface [m^2]	Internal volume [dcm^3]	No. of fans [pcs]	Weight [kg]
VS-21633	110,8	33 400	65	ø35	ø28	230	43	2	340
VS-21634	131,5	32 400	65	ø35	ø28	307	56	2	380
VS-21635	145,6	31 300	65	ø35	ø28	384	70	2	420
VS-22633	215,8	66 800	66	ø42	ø35	461	82	4	620
VS-22634	256,9	64 800	66	ø54	ø42	614	110	4	700
VS-22635	285,2	62 600	66	ø54	ø42	768	135	4	780
VS-23633	321,9	100 200	70	ø54	ø42	691	121	6	900
VS-23634	382,1	97 200	70	ø54	ø42	921	161	6	1010
VS-23635	424,0	93 900	70	ø64	ø54	1152	200	6	1130
VS-24633	439,5	133 600	71	ø64	ø54	921	163	8	1190
VS-24634	520,5	129 600	71	ø64	ø54	1229	211	8	1330
VS-24635	575,5	125 200	71	ø76	ø64	1536	267	8	1480
VS-25633	552,9	167 000	72	ø64	ø54	1152	199	10	1450
VS-25634	656,3	162 000	72	ø76	ø64	1536	266	10	1640
VS-25635	726,5	156 500	72	ø76	ø64	1920	327	10	1820

1. Fans – ø630 suction – 1.9kW/400V
2. Capacity Q[kW] calculated for R404A Freon and Δt=15K
3. Noise level provided as sound pressure from the distance of 10m.

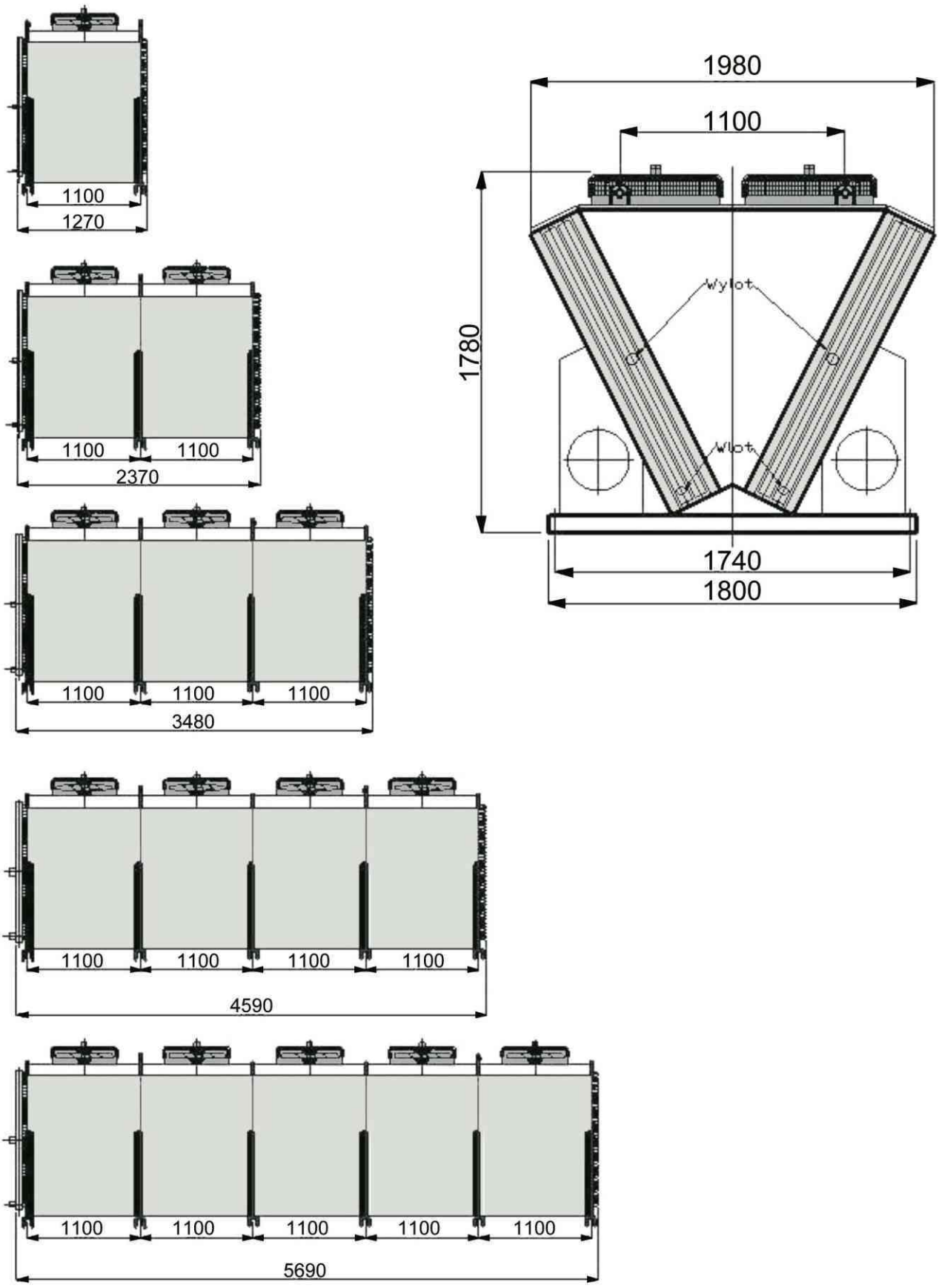
START-UP PROCEDURE

Before the start-up, check whether:
- the device is mounted correctly
- the cooling medium connections are tight
- the supply voltage is consistent with the electric plate
- the additional fan protection and all covers are in place
- the electrical elements are connected correctly

MAINTENANCE

The rolling bearings mounted in the device do not require periodical greasing. Although, it is recommended to periodically check the motor bearings (the fan impeller should turn freely without excessive play or noise). If the noise generated during operation increases, check if the fan and the whole device (including auxiliary equipment) are secured correctly.
Do not use pressure washers to clean fans or the heat exchanger.
All service and maintenance must be carried out with the power disconnected. The device should also be protected against accidental start.
The coils should be periodically checked for dirt accumulation. If the dirt layer is considerable, spray them with compressed air.
Excessive dirt on the coils may cause a decrease in cooling capacity.

VS-series condensers
V-type arrangement – two rows of ø630 fans



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