

Brodske pumpe tereta Tipa CV, CH



CROATIA PUMPE

Brodske pumpe tereta Tipa CV i CH

Pumpe tipa CV i CH su s jednim stupnjem, dvoulazne centrifugalne pumpe tereta. Koriste se za transport sirove nafte i naftnih derivata, a mogu transportirati radni medij s uključinama veličine do 0,2 mm i koncentracije do 3 g/l. Ove vrste pumpe koriste se kao glavne pumpe tereta. Prema izvedbi mogu biti vertikalne i horizontalne.

Konstruktivne karakteristike

Osnovni dijelovi pumpe su spiralno kućište, kolo rotora, rasporni prstenovi, kućište brtve, vratilo, ležaji, tuljci, mehaničke brtve i lanterna pumpe.

Spiralno kućište je aksijalno djeljivo, međusobno spojeno vijcima, centrirano kroničnim zaticima i međusobno brtljeno plosnatom brtvom. Na spiralnom kućištu nalaze se odgovarajući priključci za termostate te dosjedi za pričvršćivanje lanterne pumpe i zaštitu osovinskog voda. U spiralnom kućištu su smješteni rasporni prstenovi koji se lako mogu zamijenit kada se istroše. Namjena termostata instaliranih na spiralnom kućištu (a ima ih tri) je da isključe pumpu iz rada bilo da je došlo do pregrijavanja pumpe uslijed transporta radnog medija ili uslijed pregrijavanja ležaja pumpe.

Kolo rotora je dvoulazno, jednodjelono radijalnog tipa. Prilikom montaže u tvornici kolo rotora se reducira na promjer potreban tla se udovolji ugovorena radna točka. Poslije redukcije rotora vrši se balansiranje kola rotora. Kompletan rotirajući dio pumpe sačinjava: kolo rotora, vratilo, tuljci vratila, disk spojke i ležajevi. Također se, vrši balansiranje kompletogn rotora sa svim rotirajućim dijelovima.

Vratilo je zaštićeno sa zaštitnim tuljcima kako bi se spriječio dodir vratila i radnog medija. Vratilo je dimenzionirano tako da može podnijeti sva opterećenja u toku rada pumpe te ih preko ležaja prenijeti na kućište pumpe. Vratilo rotira u dva radijalno aksijalna ležaja koji preuzimaju radijalne i aksijalne sile nastale tijekom rada pumpe i dijela kardanskog vratila koji opterećuje pumpu. Podmazivanje ležaja pumpe vrši se mašću, a na kućište svakog ležaja ugrađuje se termostat namjena kojih je da u slučaju nedozvoljenog zagrijavanja ležaja isključe pumpu iz rada. Izlaz vratila iz spiralnog kućišta brtljen je mehaničkim brtvama koje se nalaze u kućištu mehaničke brtve. Tijekom rada pumpe ove brtve se hlađe radnim medijem, koji se dovodi s tlaka spiralnog kućišta.

Marine Cargo Pumps Type CV and CH

CV and CH type pumps are double inlet single stage centrifugal cargo pumps. Their primary avenue of use is in transport of crude oil and oil derivatives, as well as impure liquids with particle size up to 0,22 mm and concentration up to 3g/l. These types of pumps are used as main cargo pumps. Dependant on construction they can be either vertical or horizontal.

Features Of Construction

Main parts of the pump are spiral casing, impeller, wear ring, seal housing, shaft, bearings, sleeves, mechanical seals and motor pedestal.

Spiral casing is axially split, connected with screws, centered with tapered bolts and sealed together with flat seal. On a spiral casing appropriate fittings are mounted, as well as seats for mounting the pedestal and axel duct protection. Inside spiral casing wearing rings are installed which can be easily changed if worn-down. Purpose of thermostat installed on the casing (three of them) is to shut off the pump before overheating occurs due to medium transportation or bearing overheating.

Impeller is one peace radial double inlet. During assembly in the factory impeller is reduced to the diameter necessary so that requested working point is achieved. Following the impeller reduction its balancing is conducted. Rotating element of the pumps in its entirety consists of: impeller, shaft, shafts sleeves, clutch disk and beatings. Balancing is conducted on the entire rotating element as well.

Shaft is protected by the sleeves so to prevent direct contact between it and the transported medium. Shaft is seized so to sustain all of the loads during pumps operation, so they are transferred to the pump casing. Impellers shaft is housed in two radially axial bearings which are sustaining all of the forces which are created during working of the pump.

Grease is used to lubricate the pump and on every bearing casing a thermostat is installed which in case of excessive heating shut off the pump.

Shaft outlet from the spiral casing is sealed with mechanical seals which are installed inside the casing. During operation these pumps are cooled by the transported medium itself which is brought with pressure from spiral casing.

Materijali

Kod normalne izvedbe kućište, rasporni prstenovi, kolo rotora i zaštitni tuljci izrađeni su iz aluminijsko niklene bronce CuAl₁₀Fe₅Ni₅ dok je vratilo izrađeno od nehrđajućeg čelika Č.4570.

Područje dobave

Područje dobave CH i CV pumpi dano je pojedinačnim i zbirnim dijagramom. Svaka veličina pumpe pokriva određeno područje unutar kojeg je moguće birati radnu točku pumpe. Za područje izvan onih zadanih dijagramom, kao i za specijalne konstrukcijske zahtjeve, pumpe nudimo na osnovu posebnog upita.

Agregatiranje

Prema zahtjevu kupca pumpe aggregatiramo s elektromotorima, diesel motorima ili parnim turbinama. Agregati mogu biti smješteni na istom ili različitom nivou od pumpi.

Materials

With standard casing wear rings, impeller and security sleeves are manufactured out of Aluminum Nickel Bronze CuAl₁₀Fe₅Ni₅, while the shaft is manufactured out of Stainless Steel 4570.

Total Manometric Head

Total head for CH and CV type pumps is presented in single and joined diagrams. Each pump size covers specific area within whom it is possible to choose working point of the pump. For areas outside those represented by the diagram, as well as specific construction demands, pumps are offered on bases of the inquiry.

Installation of Units

Upon customers specific design pumps are equipped with electromotor, diesel motor or steam turbine. Units can be mounted on the same or different level than pumps.

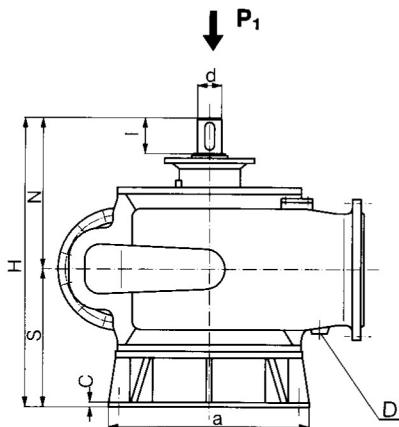
Tip pumpe Pump Type	CH 46-40	CH 52-30	CH 60-25	CH 60-30	CH 60-60	CH 73-40	CH 46-40
G (kg)	1742	1320	1100	1167	4050	2050	1845
GD ² (kgm ²)	6,3	8,14	12,7	11,3	13,6	32,1	6,3

Tip pumpe Pump Type	CV 52-30	CV 60-25	CV 60-30	CV 60-60	CV 73-40
G (kg)	1652	1250	1065	4200	2100
GD ² (kgm ²)	8,14	12,7	11,3	13,6	32,1

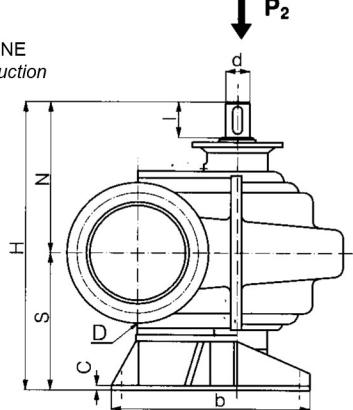
Mjerne skice

Pumpe tipa CV CV Type Pump

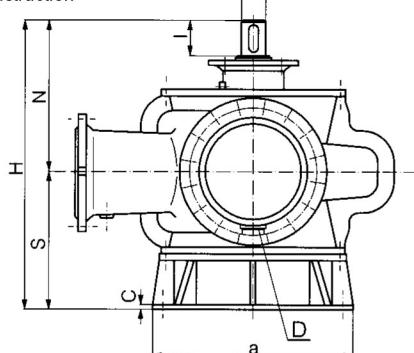
izvedba 90°
90° Construction



izvedba IN LINE
IN LINE Construction

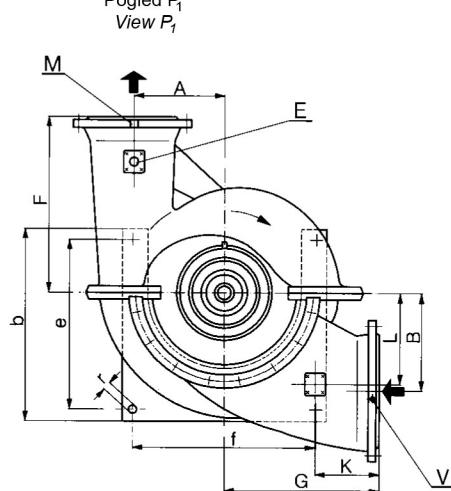


izvedba 270°
270° Construction

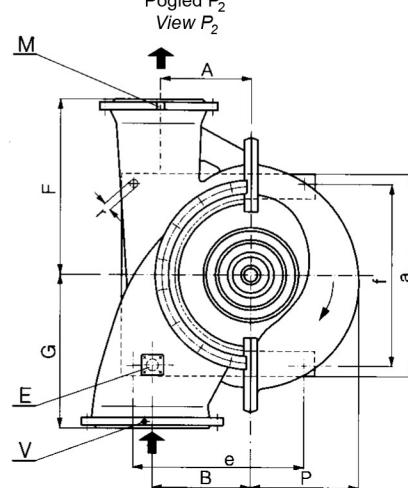


Pump Sketch With Dimensions

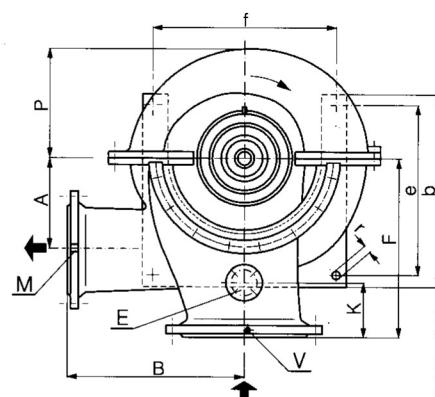
Pogled P₁
View P₁



Pogled P₂
View P₂



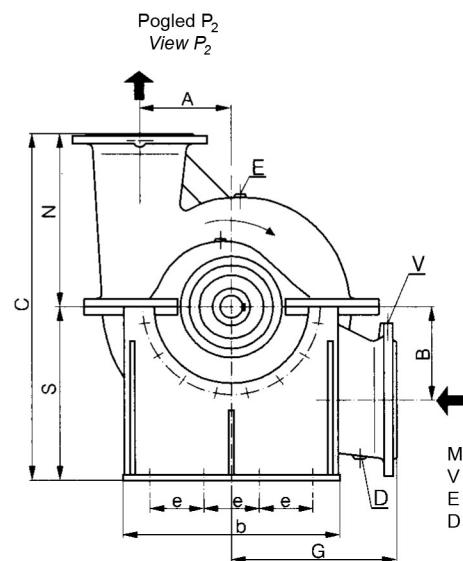
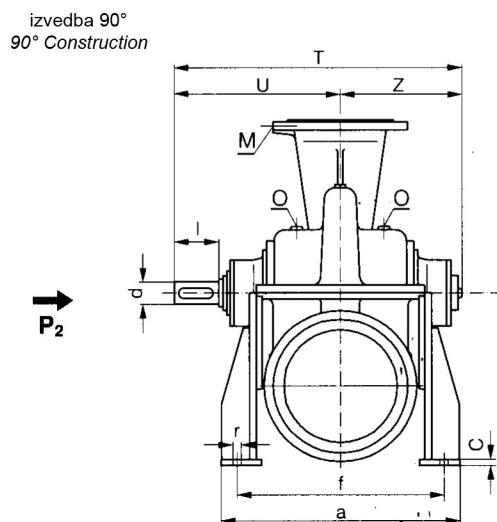
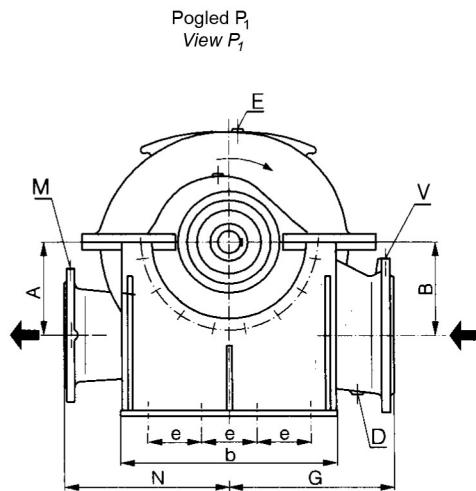
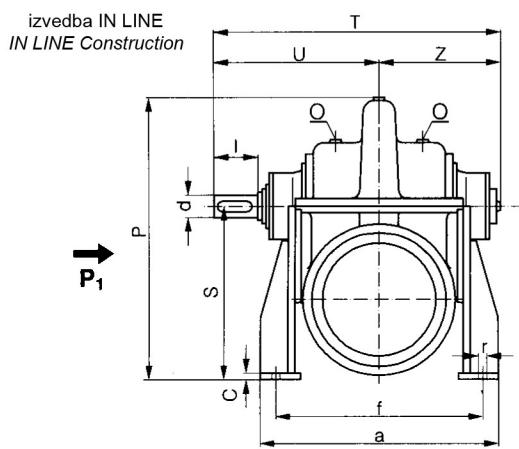
Pogled P₃
View P₃



M – manometar / air gauge
V – vakuumetar / vacuum meter
E – evakuacija / evacuation
D – drenaža / drainage

Mjerne skice

Pump Sketch With Dimensions

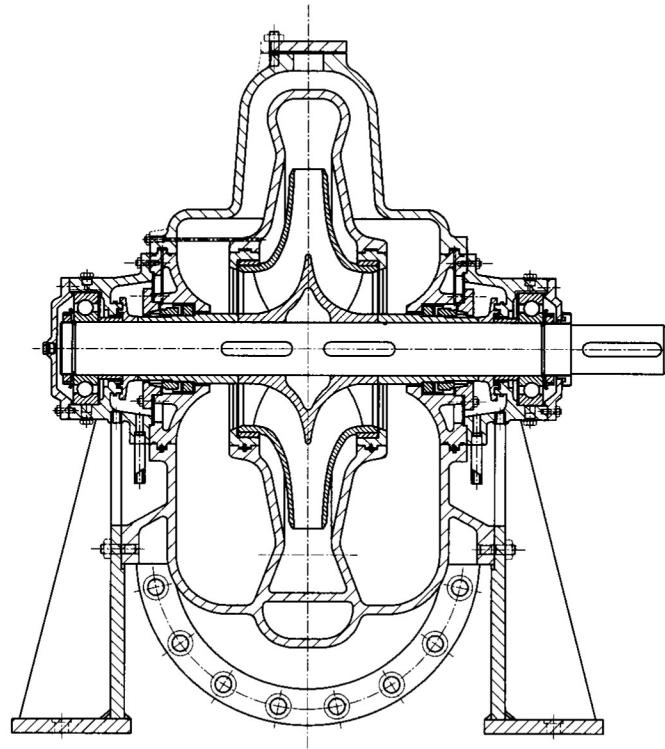


M – manometer / air gauge
V – vakuumetar / vacuum meter
E – evakuacija / evacuation
D – drenaža / drainage

Tip pumpe Pump Type	Dimenzijsije pumpe Pump Dimensions																Ustisna prirubnica Discharge Flange	Tlačna prirubnica Pressure Flange									
	A	a	B	b	C	d	e	F	f	G	H	K	L	I	N	P	r	S	T	U	Z	NO	NP	DIN	NO	NP	DIN
CH 46-40	380	1040	400	920	23	80	240	–	940	800	1540	–	–	150	800	1100	23	740	1335	740	595	500	6	2531	400	6	2531
CH 52-30	320	590	350	820	35	75	520	–	640	600	1205	–	–	140	650	960	35	565	1343	758	585	400	16	2533	300	16	2533
CH 60-25	375	870	350	800	23	85	300	–	770	600	1070	–	–	160	650	830	23	420	1075	610	465	350	16	2533	250	16	2533
CH 60-30	350	890	350	820	23	85	200	–	770	600	1300	–	–	160	650	1060	23	650	1075	610	465	400	16	2533	300	25	2534
CH 60-60	650	1580	600	1100	30	90	300	–	1460	1000	2160	–	–	180	1100	1680	30	1060	1785	980	805	700	10	2532	600	10	2532
CH 73-40	510	1120	510	880	23	95	230	–	1010	850	1780	–	–	235	900	1821	33	880	1307	832	575	500	16	2533	400	16	2533
CV 46-40	380	1000	400	850	30	80	750	800	860	800	1470	475	330	150	740	350	33	730	–	–	–	500	6	2531	400	6	2531
CV 52-30	380	1000	310	750	40	75	–	650	930	600	1270	370	230	150	620	690	22	650	–	–	–	350	16	2533	300	16	2533
CV 60-25	375	800	350	750	30	80	650	650	700	600	1160	260	310	160	810	410	33	550	–	–	–	350	16	2533	250	16	2533
CV 60-30	350	800	350	750	30	85	650	650	700	600	1160	260	310	160	610	500	33	550	–	–	–	400	16	2533	300	25	2534
CV 60-60	650	1200	600	1050	35	90	950	1100	1100	1000	1900	500	530	180	980	620	33	920	–	–	–	700	10	2532	600	10	2532
CV 73-40	510	950	510	1130	35	95	1030	900	810	850	1658	300	510	235	832	941	33	826	–	–	–	500	16	2533	400	16	2533

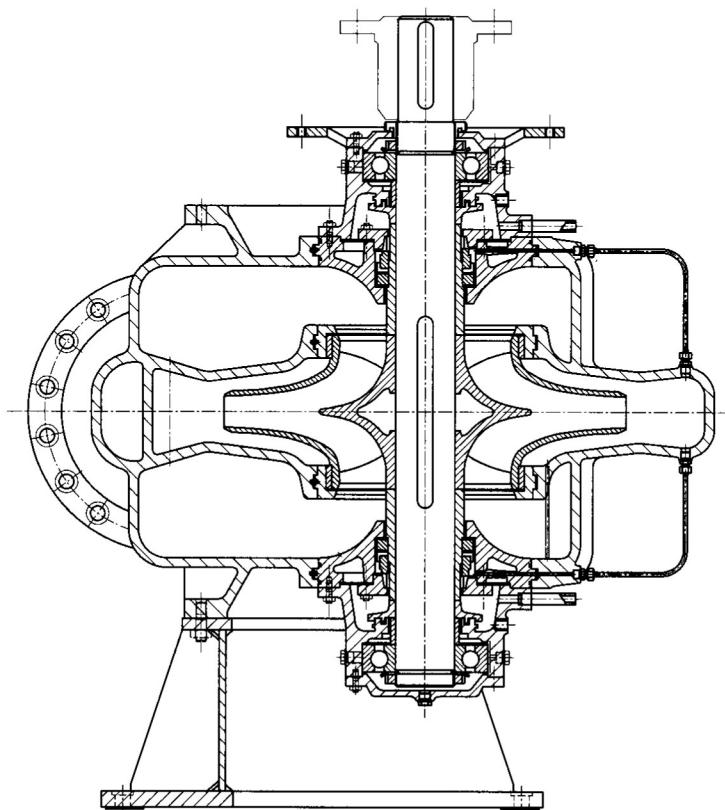
Presjek pumpe tipa CH

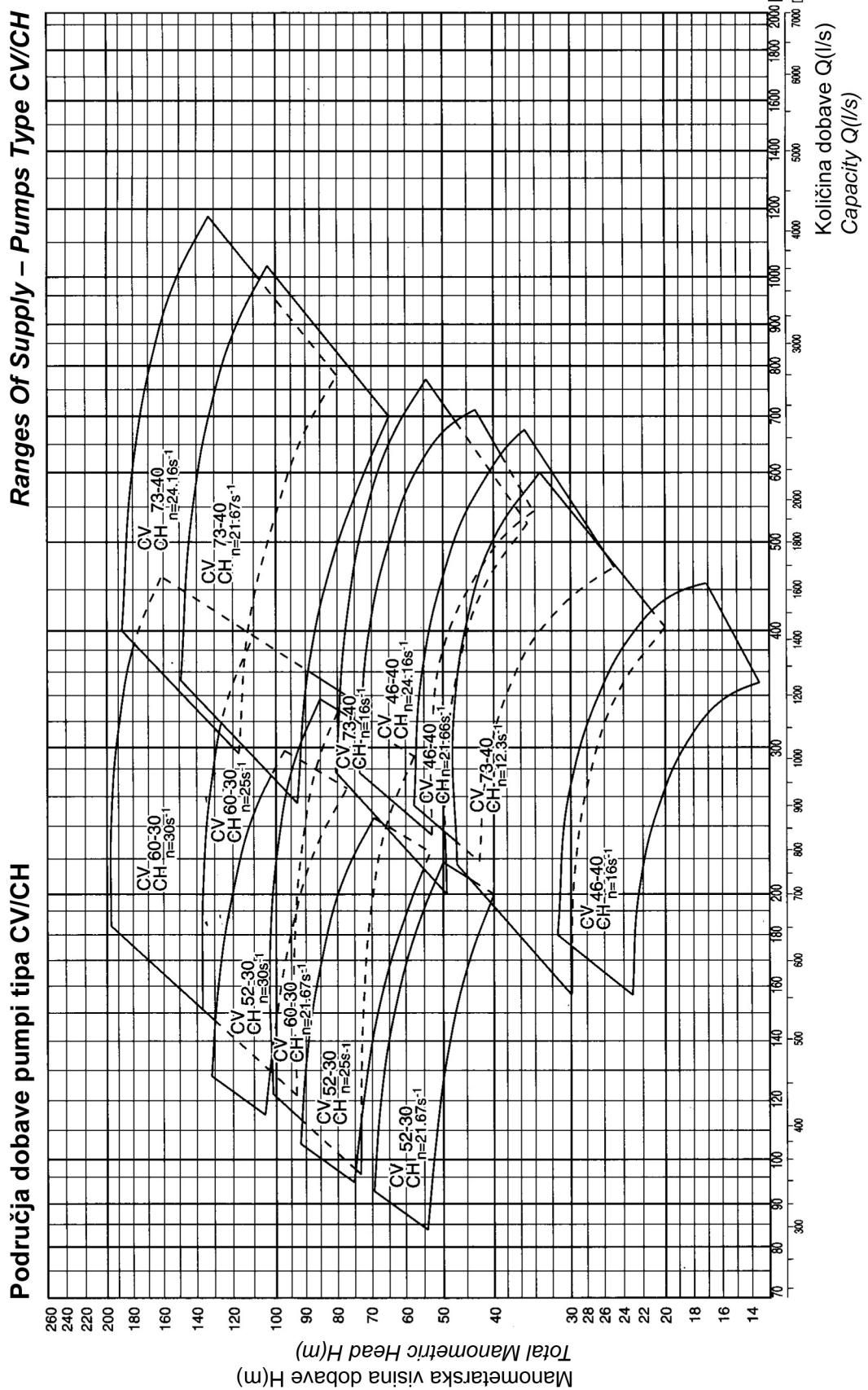
CH Type Pump Cross Section

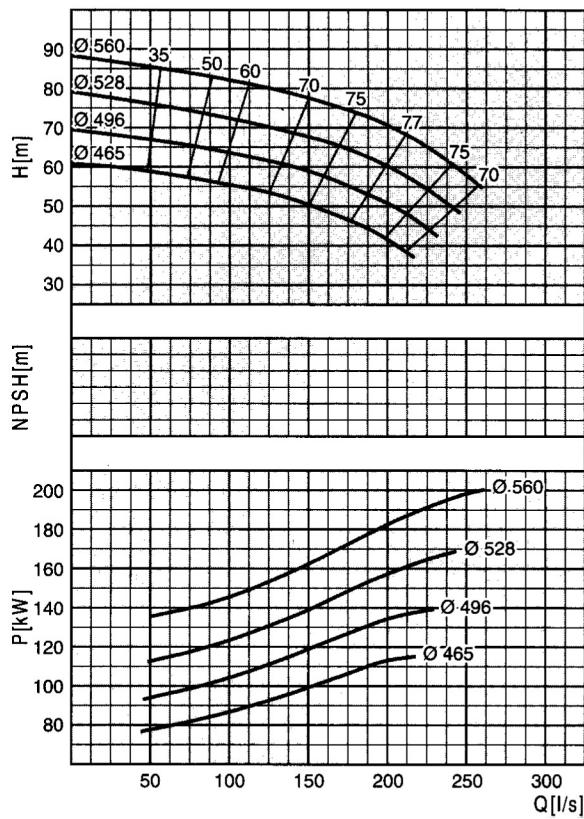
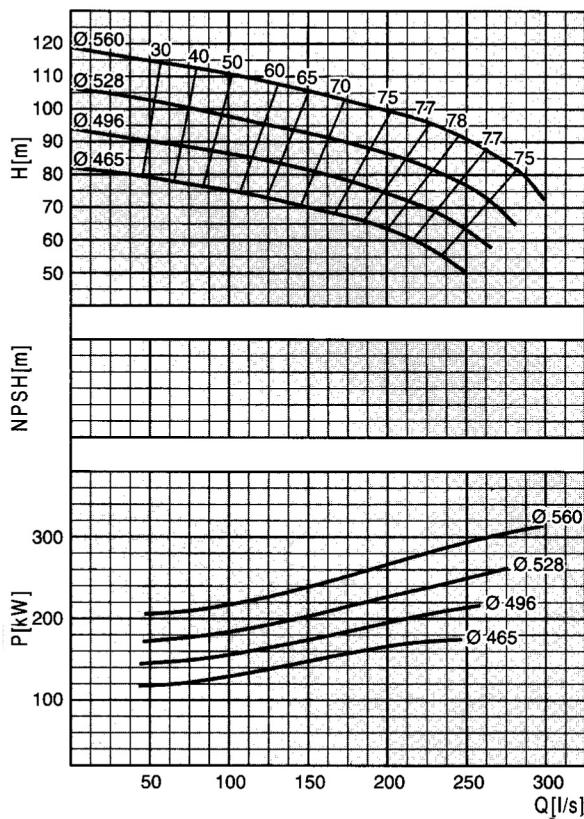
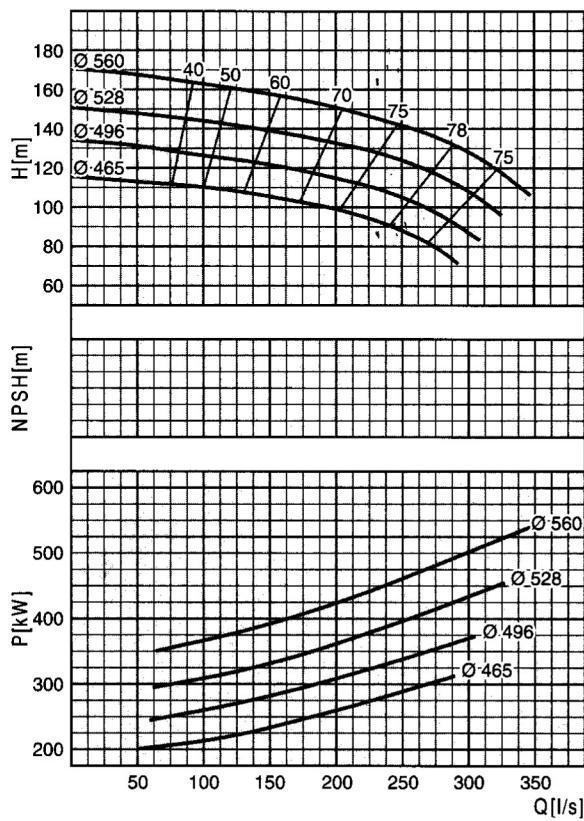
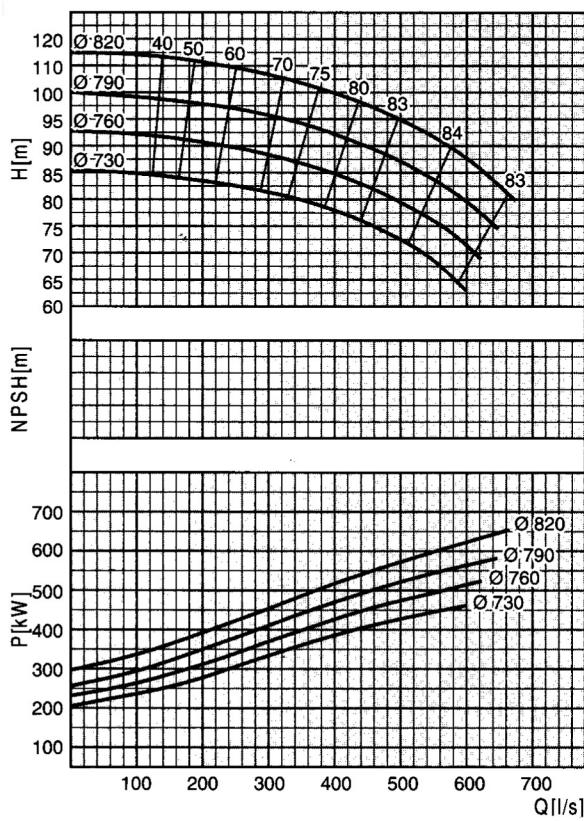


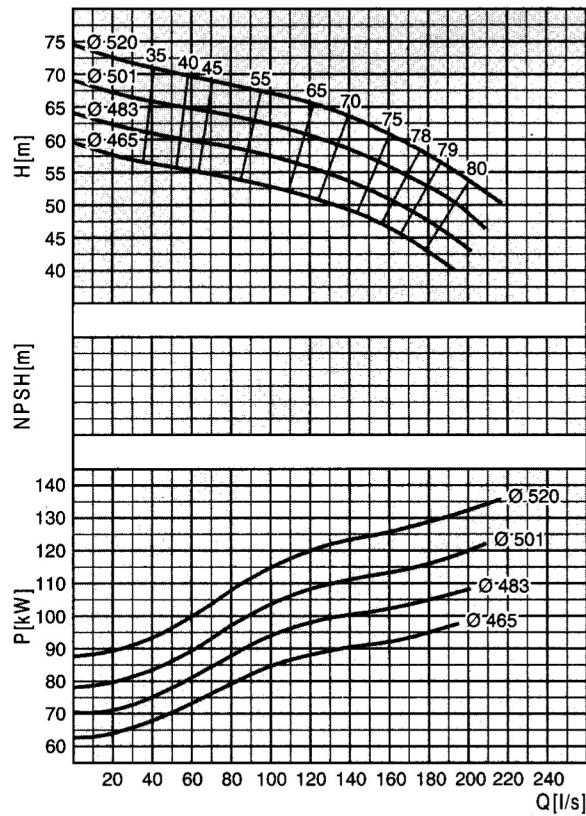
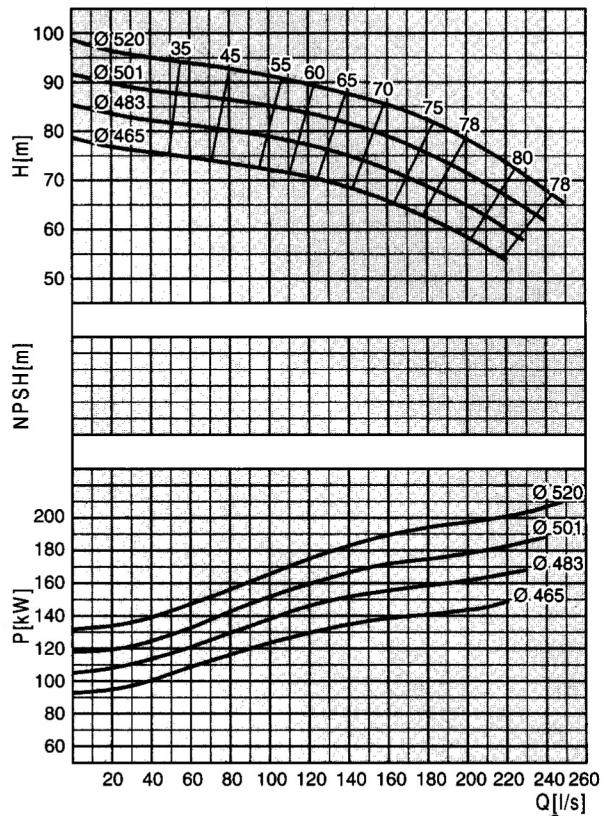
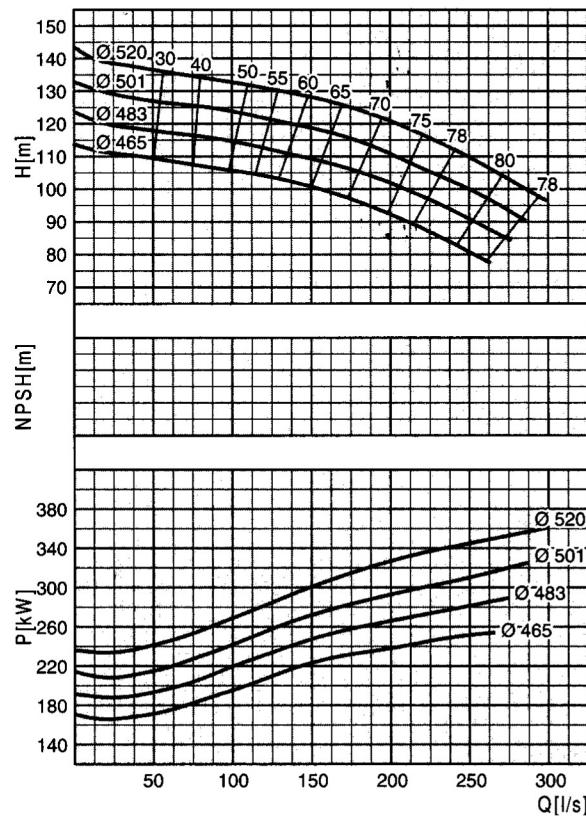
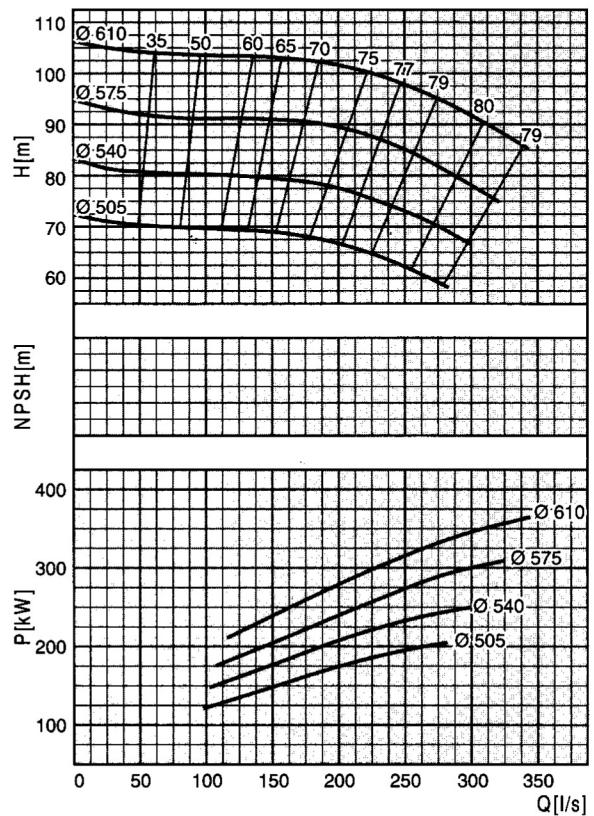
Presjek pumpe tipa CV

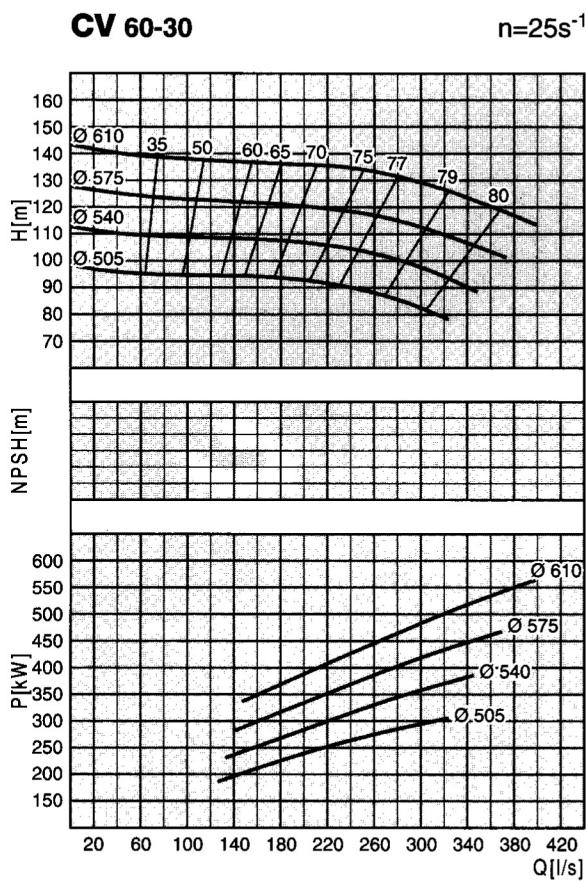
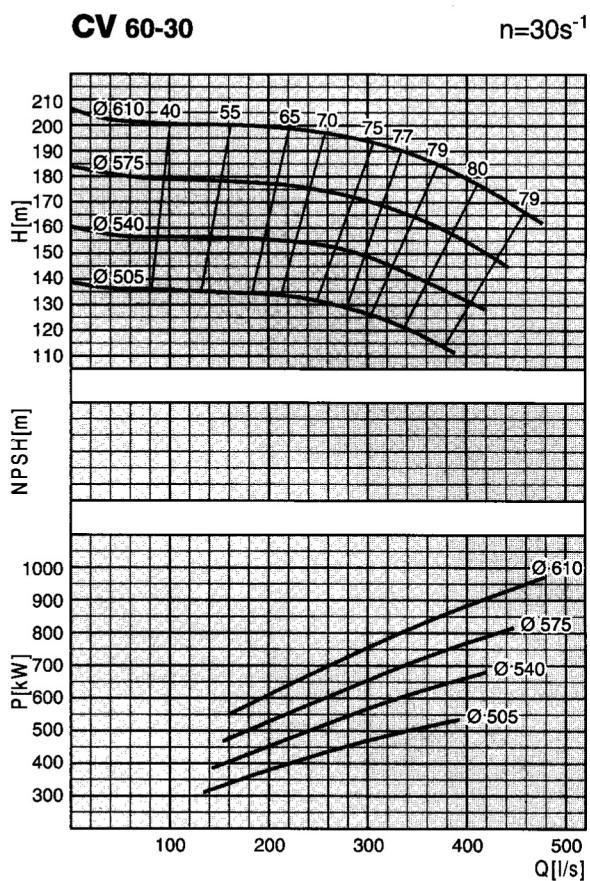
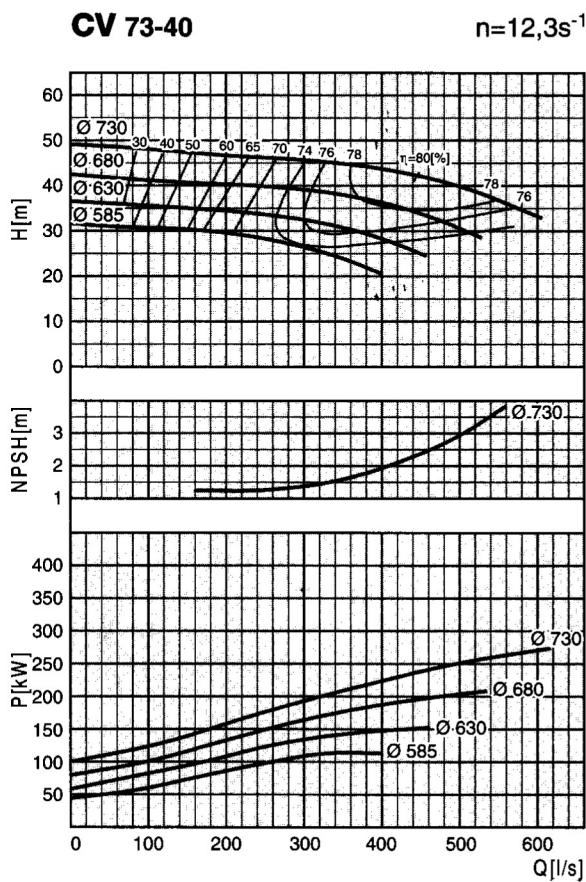
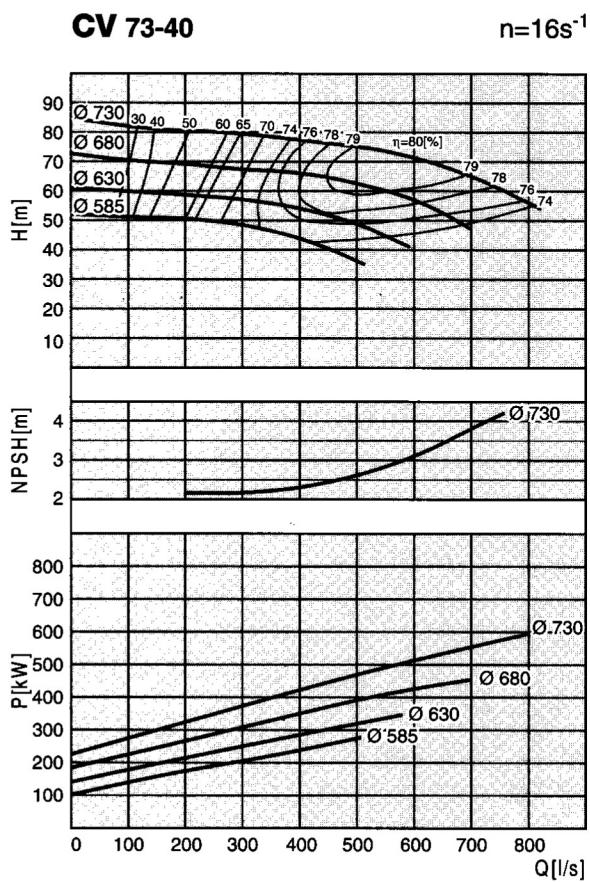
CV Type Pump Cross Section

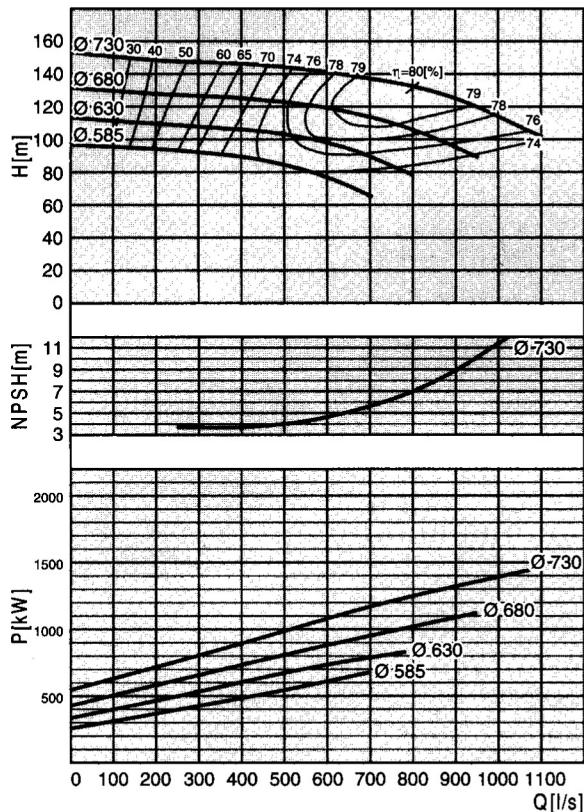
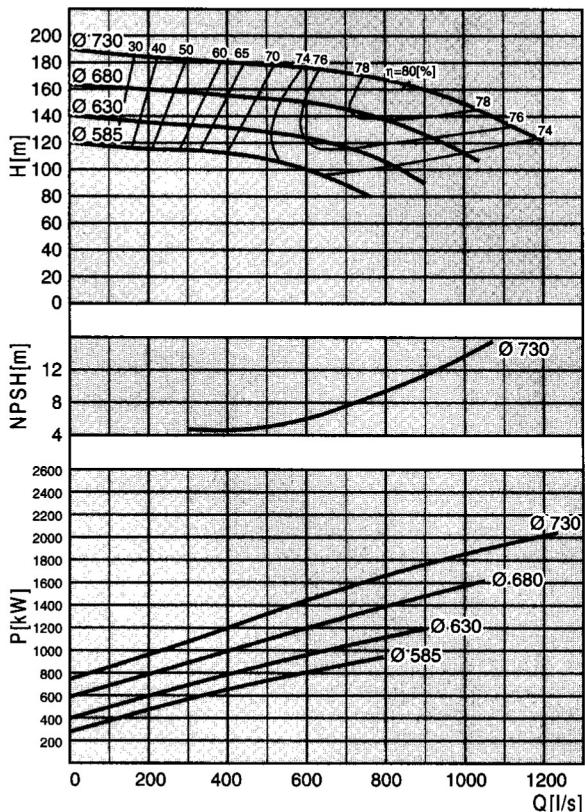
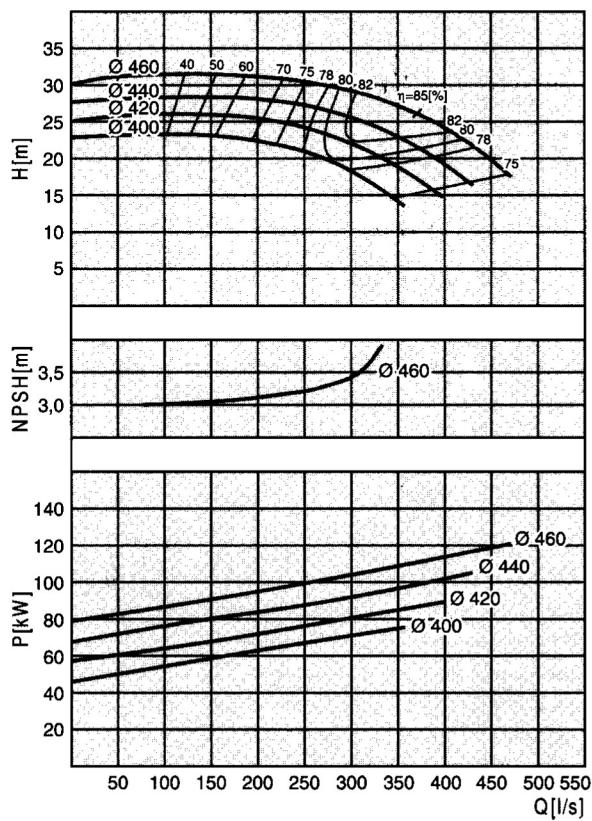


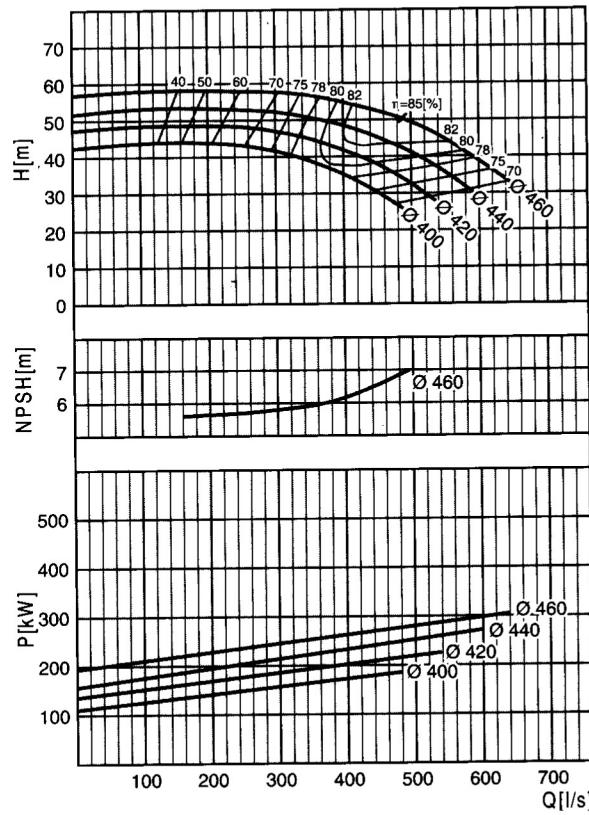
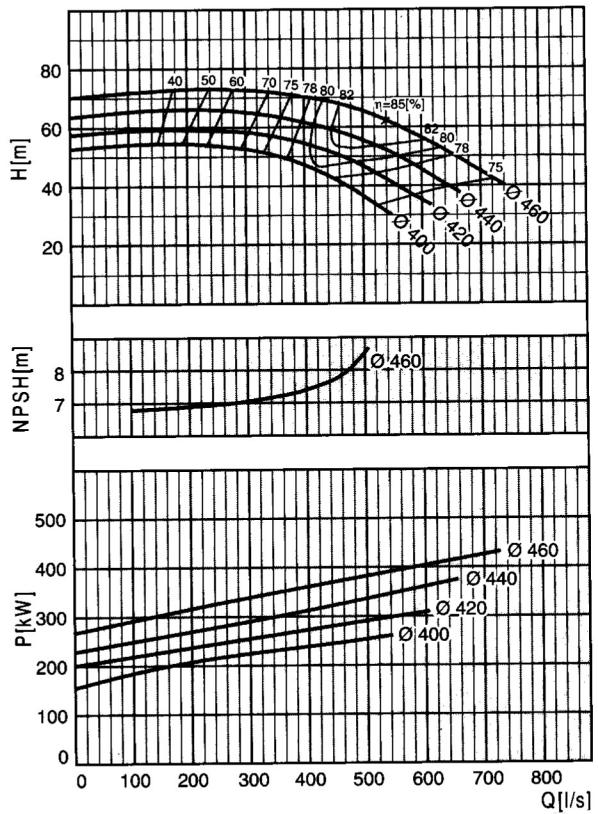


CH 56-30 $n=21,7\text{s}^{-1}$ **CH 56-30** $n=25\text{s}^{-1}$ **CH 56-30** $n=30\text{s}^{-1}$ **CH 80-50** $n=16,3\text{s}^{-1}$ 

CV 52-30 $n=21,7\text{s}^{-1}$ **CV 52-30** $n=25\text{s}^{-1}$ **CV 52-30** $n=30\text{s}^{-1}$ **CV 60-30** $n=21,7\text{s}^{-1}$ 

CV 60-30**CV 60-30****CV 73-40****CV 73-40**

CV 73-40 $n=21,67\text{s}^{-1}$ **CV 73-40** $n=24,16\text{s}^{-1}$ **CV 46-40 (DV)** $n=16\text{s}^{-1}$ 

CV 46-40 (DV) $n=21,66\text{s}^{-1}$ **CV 46-40 (DV)** $n=24,16\text{s}^{-1}$ 



**CROATIA
PUMPE**

Croatia Pump Nova d.o.o.
Mala Švrača 155
47000 Karlovac
HRVATSKA

Telefon: +385 47 434 022, 47 434 032
Fax: +385 47 434 110
E-mail: info@croatia-pumpe.com

Prodaja: Telefon: +385 47 434 033, 47 434 038, 47 434 121

Marketing: Telefon: +385 47 434 099
E-mail: info@croatia-pumpe.com