



Training V Pumps Selector

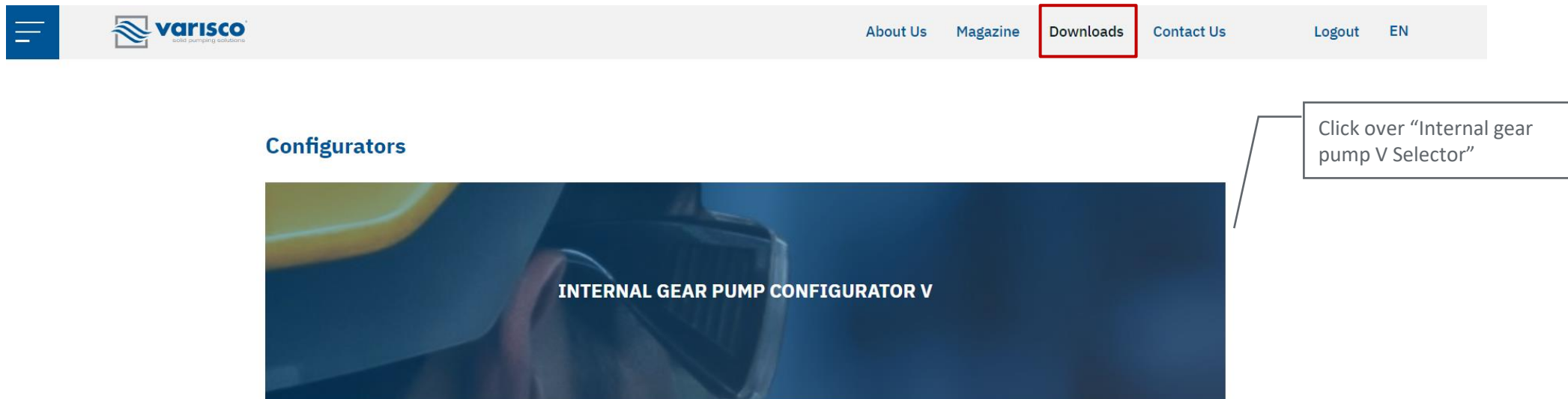
Varisco Internal Gear Pumps Selector



Where you can find V Pump Selector

Login to distributor area on Varisco website and click on “Download”. Below the technical documentation you find the banner “Internal gear pump V Selector”.

Click on it and start to use the selector!



Click over "Varisco" any time you want to reset pump selector

Varisco Internal gear pump sizer

A) Insert required flow rate and related units

Application input

Q Capa: l/min m³/h l/s gpm
Leave empty to calculate capacity from speed

OR

N Speed rpm
Leave empty to calculate speed from capacity

p Pressure bar mIc O PSI

μ Viscosity cSt cPs(=mPa·s)

ρ 1000 kg/m³ O.S.G.

Project/prepared by:

Selection result area

Plot area

*If you already know pump speed and flow rate needs to be calculated instead, insert rotation speed of pump here and leave A) section empty

B) Insert rated differential pressure in given units (if a by-pass is installed, enter by-pass set pressure – typically 1 bar more than rated pressure – to calculate maximum absorbed power)

C) Insert liquid viscosity in given units (it must lie between 20 and 60.000 cSt)

D) Insert liquid density in given units (not needed if viscosity is indicated in cSt)

E) Enter Project Name or Customer name or any other reference you want to be printed on pdf performance curve

After loading values, Pump Selector will show you all V pumps models that can meet required duty point. Only select green-marked solutions; hover with cursor on orange flags to read the related warnings.

Example no. 1

V Pump with By-Pass: Q= 40 l/min; 4 Bar; 35.000 cSt; Density 1000 kg/m³; Customer: XXXX

Application input

Q l/min m³/h l/s gpm

Leave empty to calculate capacity from speed

OR

N

Leave empty to calculate speed from capacity

p bar mlc OPSI

μ cSt cPs(=mPa·s)

ρ kg/m³ S.G.

Project/prepared by:

Selection result area

model	capacity (l/min)	pressure (bar)	speed (rpm)	power (kW)	viscosity (cSt)	max viscosity (cSt)	volumetric efficiency
<input type="radio"/> V30-2	40	5	489 <input checked="" type="checkbox"/>	1.702	35000	55410 <input checked="" type="checkbox"/>	1
<input checked="" type="radio"/> V50-3	40	5	176 <input checked="" type="checkbox"/>	0.876	35000	406980 <input checked="" type="checkbox"/>	0.99
<input type="radio"/> V60-2	40	5	82 <input checked="" type="checkbox"/>	0.755	35000	751251 <input checked="" type="checkbox"/>	0.98
<input type="radio"/> V70-2	40	5	52 <input checked="" type="checkbox"/>	0.918	35000	747698 <input checked="" type="checkbox"/>	0.96
<input type="radio"/> V80-2	40	5	35 <input checked="" type="checkbox"/>	0.631	35000	1026968 <input checked="" type="checkbox"/>	0.96
<input type="radio"/> V90-2	40	5	20 <input checked="" type="checkbox"/>	0.528	35000	1413962 <input checked="" type="checkbox"/>	0.91
<input type="radio"/> V100-2	40	5	15 <input checked="" type="checkbox"/>	0.476	35000	1634367 <input checked="" type="checkbox"/>	0.85
<input type="radio"/> V120-2	40	5	8 <input checked="" type="checkbox"/>	0.518	35000	3392398 <input checked="" type="checkbox"/>	0.75
<input type="radio"/> V150-2	40	5	7 <input checked="" type="checkbox"/>	0.561	35000	1778147 <input checked="" type="checkbox"/>	0.69
<input type="radio"/> V151	40	5	7 <input checked="" type="checkbox"/>	0.447	35000	3540983 <input checked="" type="checkbox"/>	0.85
<input type="radio"/> V180	40	5	5 <input checked="" type="checkbox"/>	0.548	35000	6450646 <input checked="" type="checkbox"/>	0.67
<input type="radio"/> V200	40	5	4 <input checked="" type="checkbox"/>	0.645	35000	6715214 <input checked="" type="checkbox"/>	0.58

Here is given the pump's absorbed power at the shaft. In case of V 50-3 it's 0,876 kW. Always add a 20% safety margin to this value, so $0,876 \times 1,2 = 1,051$ kW. Then a motor with commercial size equal or greater than this value has to be selected: in this example a 1,1 kW electric motor.

This flag is an indicator of "Max viscosity to fluid viscosity" ratio, which should be kept greater than 3. In this example, for V30-2 $55410 / 35000 = 1,58$, flag is then ORANGE, V30-2 is not recommended.

By-Pass to be set at P + 1 bar , we enter 5 Bar (4+1)

There are four solutions with both green flags, then suitable for the duty point: V 50-3, V 60-2, V 70-2, V 80-2. The smallest and cheapest is V 50-3
ATTENTION: a slower pump should be selected based on pumped liquid (ex: chocolate, abrasive fluids and so on). Contact Varisco in such cases.

Such ORANGE flags mean that pump speed is lower than minimum allowed speed indicated in official performance curve: it is not recommended to select a pump out of this group.
 ORANGE = no good

Pump Performance Sheet

It is possible to get a Pump Performance Sheet, for the selected solution, in pdf

Application input

Q l/min m³/h l/s gpm

Leave empty to calculate capacity from speed

OR

N

Leave empty to calculate speed from capacity

p bar mlc OPSI

μ cSt cPs(=mPa·s)

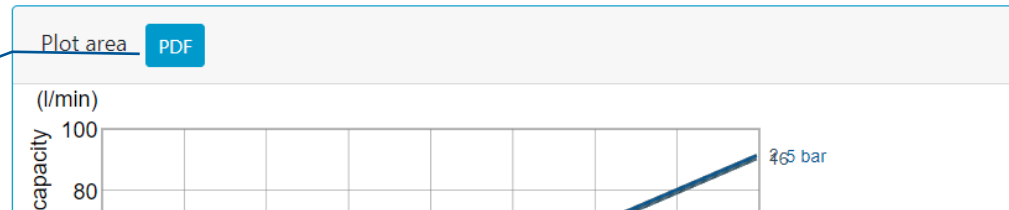
ρ kg/m³ S.G.

Project/prepared by:

Selection result area

model	capacity (l/min)	pressure (bar)	speed (rpm)	power (kW)	viscosity (cSt)	max viscosity (cSt)	volumetric efficiency
<input type="radio"/> V30-2	40	5 489	✓	1.702	35000	55410	✗ 1
<input checked="" type="radio"/> V50-3	40	5 176	✓	0.876	35000	406980	✓ 0.99
<input type="radio"/> V60-2	40	5 82	✓	0.755	35000	751251	✓ 0.98
<input type="radio"/> V70-2	40	5 52	✓	0.918	35000	747698	✓ 0.96
<input type="radio"/> V80-2	40	5 35	✓	0.631	35000	1026968	✓ 0.96
<input type="radio"/> V90-2	40	5 20	✗	0.528	35000	1413962	✓ 0.91
<input type="radio"/> V100-2	40	5 15	✗	0.476	35000	1634367	✓ 0.85
<input type="radio"/> V120-2	40	5 8	✗	0.518	35000	3392398	✓ 0.75
<input type="radio"/> V150-2	40	5 7	✗	0.561	35000	1778147	✓ 0.69
<input type="radio"/> V151	40	5 7	✗	0.447	35000	3540983	✓ 0.85
<input type="radio"/> V180	40	5 5	✗	0.548	35000	6450646	✓ 0.67
<input type="radio"/> V200	40	5 4	✗	0.645	35000	6715214	✓ 0.58

Once having selected the suitable pump model, click on PDF button



Performance Sheet

Project / prepared by: Client XXXX

Calculated pump speed to maximum allowed speed ratio (%) for selected pump

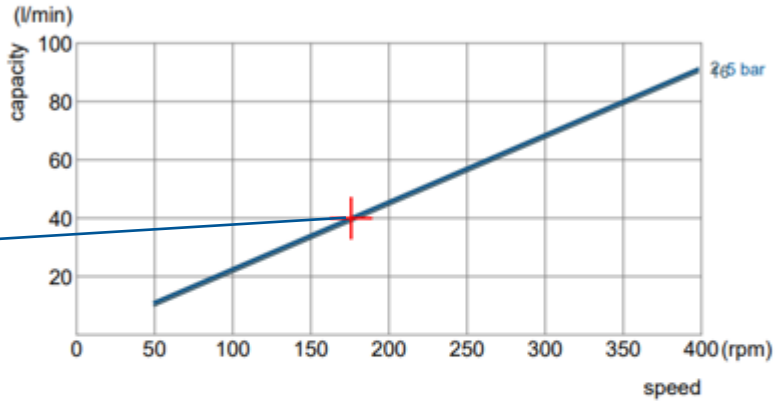
Duty Point: Capacity / Speed / Pressure

Duty Point: Power / Speed / Pressure

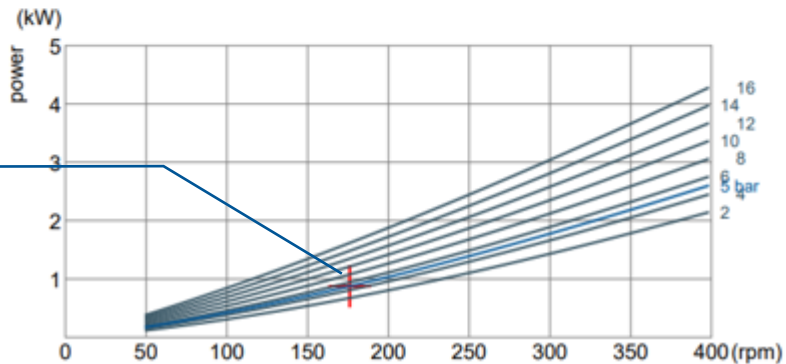
Performance sheet

Project / prepared by:	capacity (l/min)	pressure (bar)	speed (rpm)	rpm / max rpm	power (kW)	viscosity (cSt)	max viscosity (cSt)	volumetric efficiency
V50-3	40	5	176	44 %	0.876	35000	406980	0.99

Performance curve



Power curve



Generation 2022-09-29 version 1.2 - Subject to modifications without prior notice

Printed on 2022-09-29



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solid pumping solutions