

## Application

Pumps NTV are intended for forced circulation of water in low-pressure hot water systems of central heating. Construction of that Series allows two-step control of capacity.

## Pumped liquid

- clean, soft and chemically inactive water (potable) without any content of mechanical impurities
- mixture of water and glycol at the rate 1 : 1
- solar liquid with its max. density of 1,050 kg.m<sup>-3</sup>

## Construction

Pumps NTV are of close-coupled glandless construction, provided with an electric motor being cooled with a pumped liquid.

## Material options

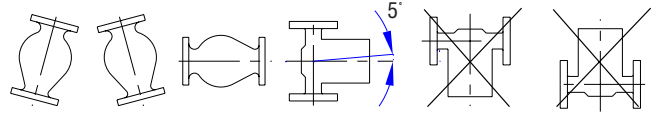
Pump main parts are produced of following constructional materials:

Pump casing	- grey cast iron
Impeller	- brass
Shaft, interstage diaphragm and can	- stainless steel
Bearings	- carbon

## Arrangement and positioning

Pumps NTV may be mounted into straight piping - inclined as desired, however, the electric motor axis should always be horizontal, with max. deviation of +5°.

Wiring shall conform to respective standards.



Mount valves and checking pressure gauges in front of the pump and behind it.

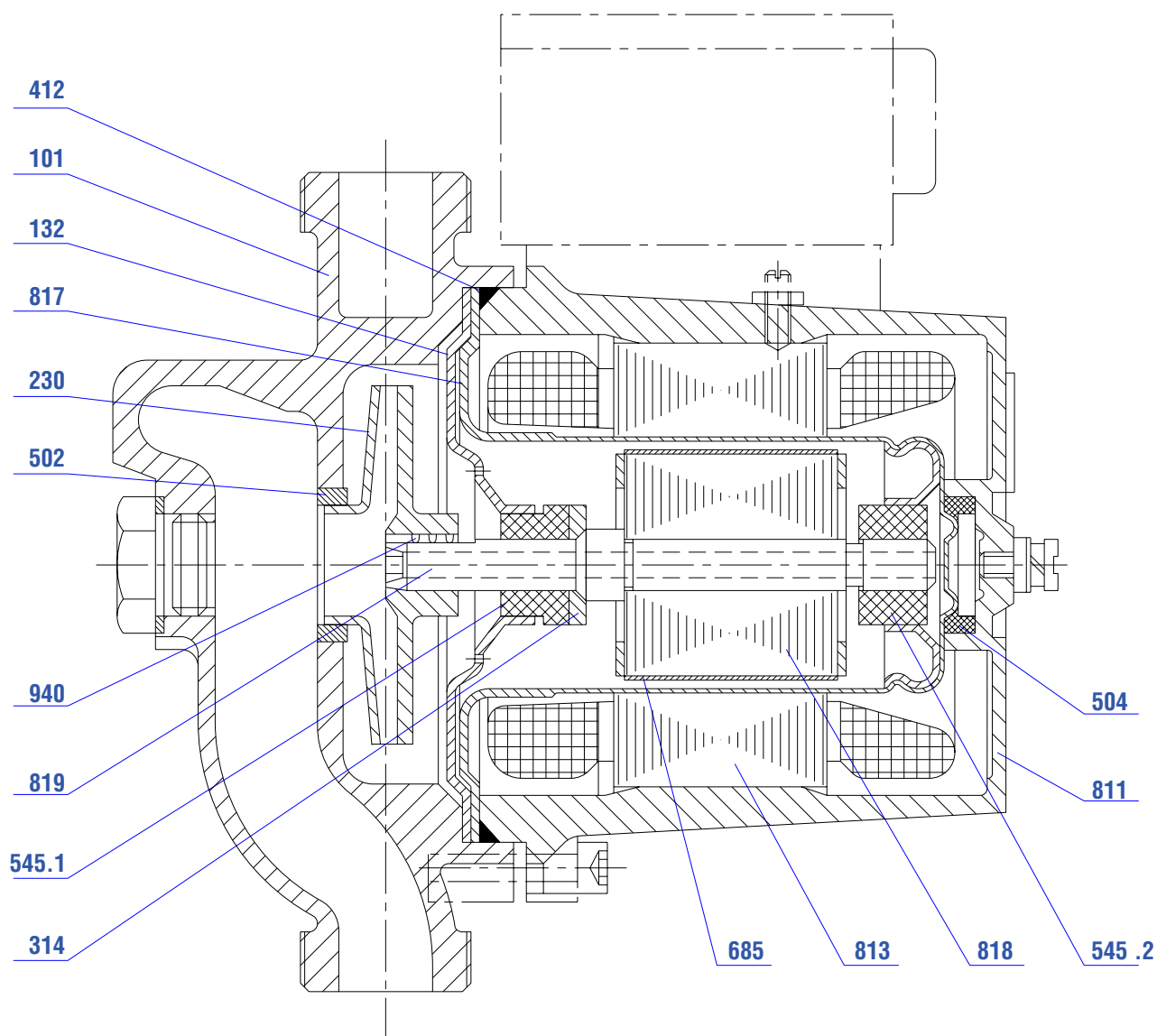
Piping near by the pump should be clamped thoroughly, to prevent transmission of forces having been generated by piping expansion or due to installation faults onto the pump.

It is not recommended to place the pump at the lowest or the highest spots of a heating system. At the lowest spot there its fouling and clogging may happen, then at the highest spot there its aerating could appear.

## Accessories of small circulators NTV

Smallest types of circulators 20-NTV and 25-NTV may be provided with ball cocks serving as shut-off elements for both suction and discharge sides. Ball cocks may be installed into piping in various positions - as desired. They may be delivered on a special request.

## Informatory cross-section through pump

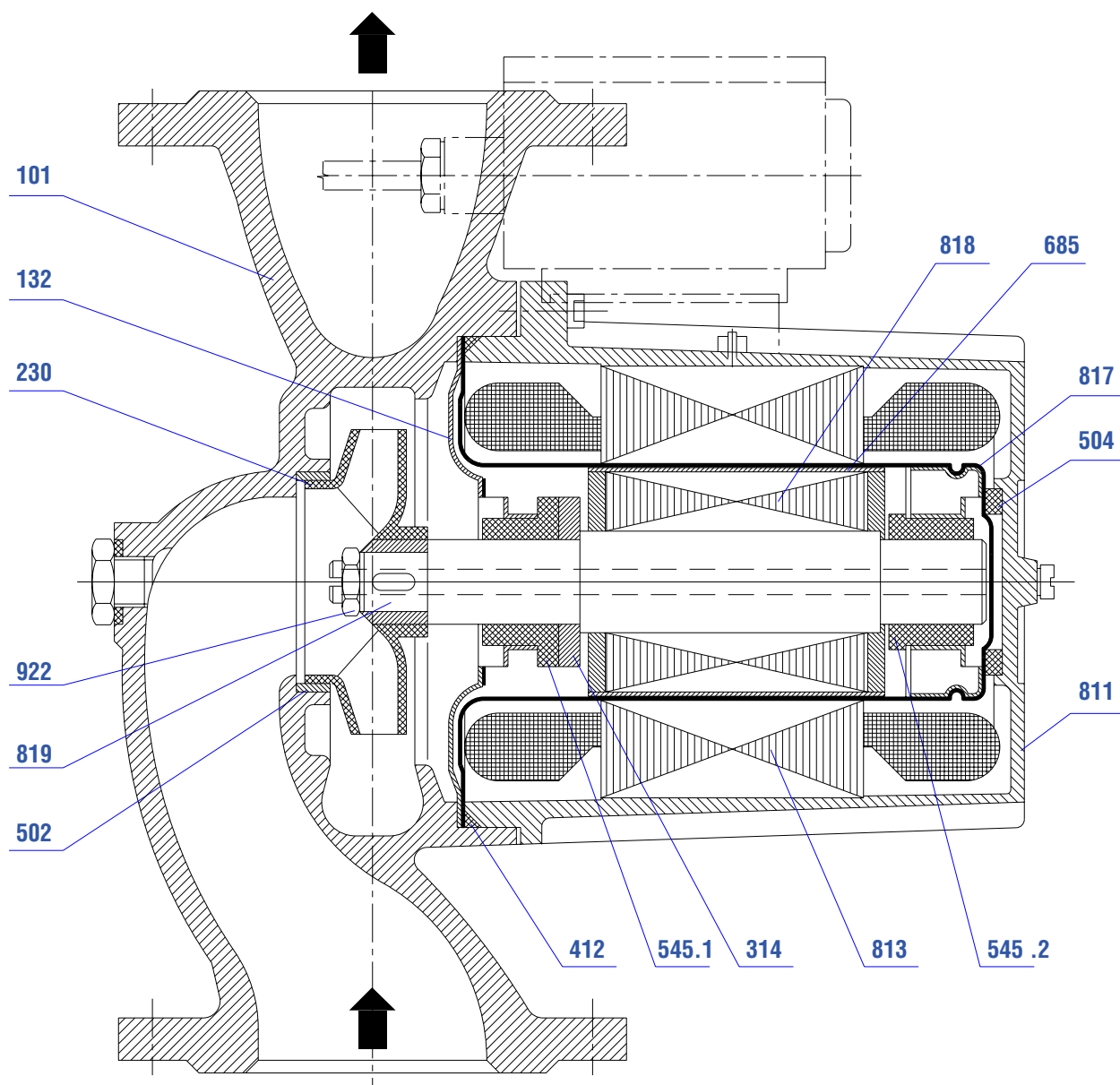


### 20-NTV až 25-NTV

Numbering of positions according to DIN 24 250

101	Pump casing	504	Distance ring	817	Can
132	Interstage diaphragm	545.1	Bearing bush	818	Electric motor rotor
230	Impeller	545.2	Bearing bush	819	Shaft
314	Ring carrier	685	Protective bush	940	Clamping strip
412	Wear ring	811	Electric motor shell		
502	Joint ring	813	Electric motor stator		

## Informatory cross-section through pump



### 40-NTV až 80-NTV

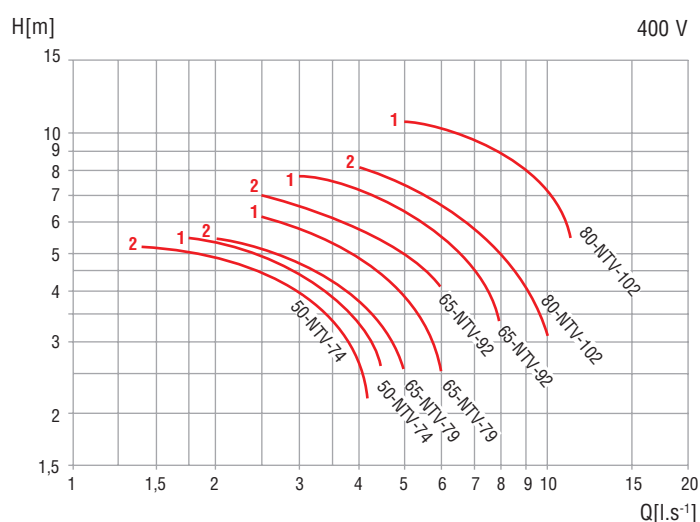
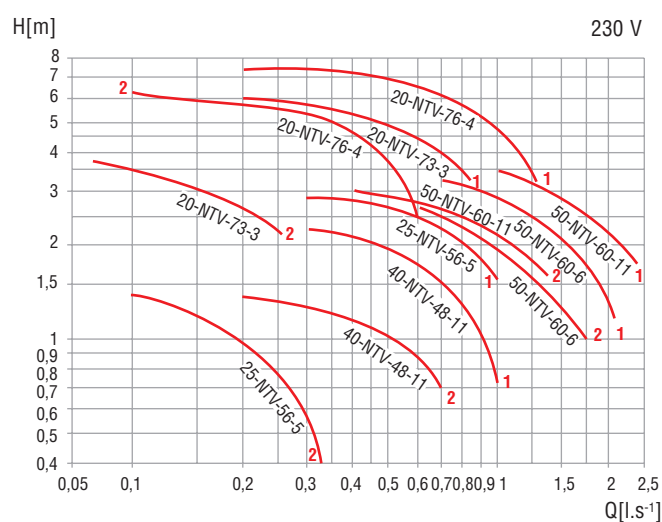
Numbering of positions according to DIN 24 250

101	Pump casing	504	Distance ring	817	Can
132	Interstage diaphragm	545.1	Bearing bush	818	Electric motor rotor
230	Impeller	545.2	Bearing bush	819	Shaft
314	Ring carrier	685	Protective bush	922	Shaft nut
412	Wear ring	811	Electric motor shell		
502	Joint ring	813	Electric motor stator		

## Performance data

Pump type		20-NTV-73-3	20-NTV-76-4	25-NTV-56-5	40-NTV-48-11	40-NTV-60-6	50-NTV-60-6	50-NTV-60-11	50-NTV-74-13	65-NTV-79-14	65-NTV-92-12	80-NTV-102-16
Basic speed	n (min <sup>-1</sup> )	2590	2700	2600	2780	2750	2750	2700	2850	2810	2740	2720
Power input	P <sub>1</sub> (W)	80-106	90-176	46-55	38-40	80-105	75-93	90-116	310-420	400-500	560-770	880-1360
Reduced speed	n (min <sup>-1</sup> )	1650	2200	1600	2120	2200	2200	2300	2600	2600	2400	2330
Power input	P <sub>1</sub> (W)	43-52	65-140	28-32	23-24	55-80	55-77	70-104	200-290	300-400	420-600	720-1000
Current for motor protection (Open-phase circuit breaker setting-up)	I (A)	0.5*	0.8	0.3*	0.2*	0.6	0.6	0.7	1.2	1.3	2	2.7
Max. temperature of a pumped liquid	t (°C)	120	120	120	120	120	120	120	110	110	110	110
Max. temperature of ambience as standard	t (°C)	50	50	35	35	35	35	35	40	40	40	40
on request	t (°C)	-	-	50	50	50	50	50	50	50	50	50
Suction branch dia.	DN (mm)	20	20	25	40	40	50	50	50	65	65	80
Discharge branch dia.	DN (mm)	20	20	25	40	40	50	50	50	65	65	80
Max. working pressure as standard	p (MPa)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
on request	p (MPa)	-	1.0	-	1.0	1.0	1.0	1.0	1.0	1.0	-	-
Electric motor												
Voltage	U (V)	230	230	230	230	230	230	230	400	400	400	400
Frequency	f (Hz)	50	50	50	50	50	50	50	50	50	50	50
Acoustic power max. level	L <sub>PA</sub> (dB <sub>A</sub> )	40	40	38	40	45	45	45	53	53	53	53
Pump-set weight	m (kg)	4.9	4.7	4.7	8	10	10.3	16	16	19	23	26

## Pump selection chart

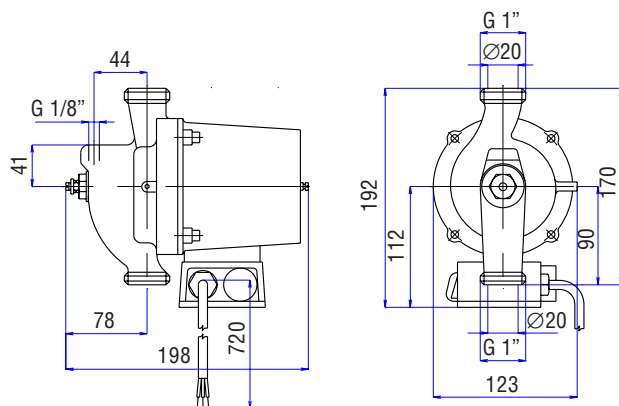


Curves marked with number 1 correspond to position „MAX“ of change-over switch - pump works with its full output.  
Curves marked with number 2 correspond to position „MIN“ of change-over switch - pump works with its reduced output.

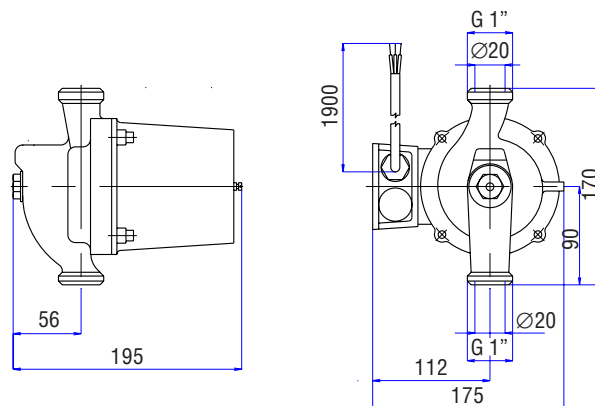
# Heat water circulators NTV

## Dimensions

### 20-NTV-73



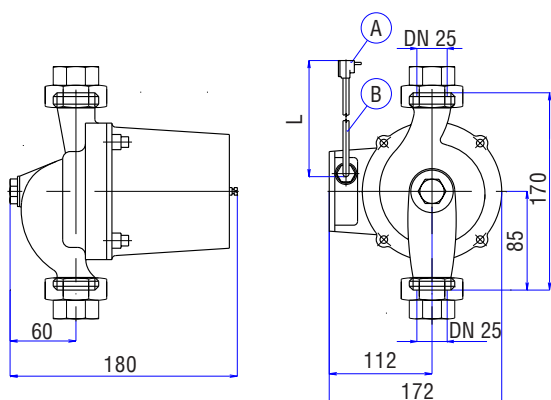
### 20-NTV-76



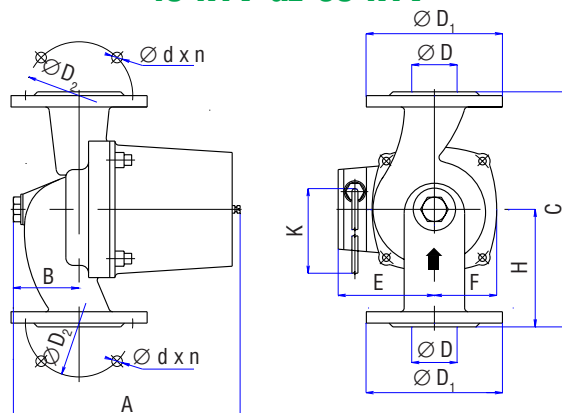
Pump 20-NTV-73-3 is intended for installation into straight piping or heating circulating pump-sets for central heating serving one flat.

Pump 20-NTV-76-4 „SOLAR“ for installation into straight piping is intended for forced circulation of anti-freeze and anti-corrosive liquids or hot water.

### 25-NTV-56



### 40-NTV až 80-NTV



#### Workmanship A:

cable with plug L = 2,100 mm for ambient temperature 35 °C

#### Workmanship B:

cable without plug L = 2,000 mm for ambient temperature 50 °C

Pump Series	A	B	C	E	F	H	K *)	Branches				
								ØD	ØD <sub>1</sub>	ØD <sub>2</sub>	Ød	n
40-NTV-48-11	195	64	220	112	60	110	2100	40	128	100	14	4
40-NTV-60-6	215	64										
50-NTV-60-6	225	71	240	125	80	140	1900	50	138	110	14	4
50-NTV-60-11												
50-NTV-74-13	265	90	300	140	100	150	2000	70	158	130	18	4
65-NTV-79-14												
65-NTV-92-12	300	115	380	140	110	190	2000	80	188	150	18	4
80-NTV-102-16												

n = number of holes Ø d.

Dimensions of both branches flanges (D) are intended for PN 6, with raised face.

\*) With pumps of Series 20-NTV, 25-NTV and 40-NTV there are two types of electric cable terminations. With ambient temperature 35 °C - a cable with a plug, with ambient temperature 50 °C - silicone cable without a plug. Pump other Series are supplied without a plug.