1. Pump versions

UPM3S

Pump type	Type	External control	Internal control
UPM3S	XX-40/50/60	PWM A profile	-
UPM3S LIN	XX-60	LIN bus	-
UPM3S FLEX AS	XX-60	PWM A profile	CC/MAX
UPM3S AUTO	XX-60	-	PP/CP/CC/AA
UPM3S HYBRID	XX-60	PWM A/C profile	PP/CP/CC/AA

UPM3

Pump type	Type	External control	Internal control
UPM3(K) (N)	XX-50/60/70/75	PWM A profile for XX-50/60 PWM C profile for XX-70/75	-
UPM3(K) LIN (N)	XX-75	LIN bus	-
UPM3(K) FLEX AS (N)	XX-50/70/75	PWM A profile	CC/MAX
UPM3(K) AUTO (N)	XX-50/70	-	PP/CP/CC/AA
UPM3(K) SOLAR	XX-75/105/145	PWM C profile	CC
UPM3(K) DHW	XX-20/50/70	PWM A profile	MAX
UPM3(K) HYBRID (N)	XX-50/70	PWM A/C profile	PP/CP/CC/AA

UPM3L

Pump type	Type	External control	Internal control
UPM3L(K)	XX-75	PWM A profile	-
UPM3L(K) LIN	XX-75	LIN bus	-
UPM3L(K) FLEX AS	XX-75	PWM A profile	MAX
UPM3L(K) AUTO	XX-70	-	PP/CP/CC/AA
UPM3L(K) HYBRID	XX-70	PWM A/C profile	PP/CP/CC/AA

UPMO

Pump type	Type	External control	Internal control
UPMO	XX-50/60/70	PWM A profile	CC/MAX

Other versions or housings with different dimensions, materials, design or functionality are available on request. Please contact your Grundfos HVAC OEM KAM.

Abbrevations

PWM: Pulse-Width Modulation

PWM A/C: Externally controlled via PWM A or C profile

PP: Proportional pressure

CP: Constant pressure

CC: Constant curve

MAX: Maximum curve of PWM range

AA: $AUTO_{ADAPT}$

LIN: LIN bus (VDMA 24226)

N: Versions with stainless steel pump housings approved for drinking water

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4. Identification

Type key

Example: UPM3 SOLAR 15 - 145 130 C A X 9 XXX

Code	Explanation	Designation
UPM3	Standard	Pump type
UPM3S	Small version with IMM rotor	
UPM3L	Large version with extended P1	
UPMO	For ErP upgrade and replacement	

Code	Explanation	Designation
F	For flammable refrigerant environments	Control variant
K	Cold water	
FLEX AS	PWM A, MAX	
SOLAR	PWM C, CC	
DHW	PWM A, MAX	
AUTO	PP, CP, CC, AA	
HYBRID	PWM A/C, PP, CP, CC, AA	
LIN	LIN bus	

Code	Explanation	Designation
15	R 1/2" / G 1"	Nominal diameter
25	R 1" / G 1 1/2"	
32	R 1 1/4" / G 2"	

Code	Explanation	Designation
20	2 m	Maximum head
40	4 m	
50	5 m	
60	6 m	
70	7 m	
75	7.5 m	
105	10.5 m	
145	14.5 m	

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Code	Explanation	Designation
130	Cast iron CED, 130 mm	Pump housing
180	Cast iron CED, 180 mm	
N 130	Stainless steel, 130 mm	
N 150	Stainless steel, 150 mm	
N 180	Stainless steel, 180 mm	
GGES2	Cast iron CED, end suction UPM3	
GGAOS3	Cast iron CED, AOS3 UPM3	
GGMBP3	Cast iron CED, GGMBP3 UPM3	
GGBP3	Cast iron CED, GGBP3 UPM3	
CIL3PA	Composite CIL3, PA6.6 UPM3	
CIL3PP	Composite CIL3, PPS UPM3	
CIAO2A	Composite CIAO2 AC	
CIAO2	Composite CIAO2	
CESAO1	Composite CESAO1	
CESAO2	Composite CESAO2	
CESAO4	Composite CESAO4	
CACAO	Composite CACAO	
AOKR	Composite AOKR	
CAOD3	Composite CAOD3 UPM3	

Code	Explanation	Designation
A	PWM A profile, heating	External control signals 1 and 2
C	PWM C profile, solar	
N	LIN bus	
Z	No profile	

Code	Explanation	Designation
A	0-563 rpm	Minimum speed
J	> 2.025 rpm	

Code	Explanation	Designation
X	TE MSS NdFeB Relay	Control signal connector
Y	FCI NdFeB Relay	
V	TE MSS NdFeB NTC	
W	FCI NdFeB NTC	
T	TE MSS IMM NTC	
U	FCI IMM NTC	

Code	Explanation	Designation
3	3 h (right)	Control box orientation
6	6 h (below)	
9	9 h (left)	
0	12 h (top)	

Code	Explanation	Designation
	XXX	Customer code

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Standard range

Overview of the standard range for UPM3.

UPM3S

UPM3S standard range

Variant	Size	Max. H nom. [m]	Max. P1 nom. [W]	Operating panel	PWM A profile	PWM C profile	LIN bus	Constant curve (CC)	Proportional pressure (PP)	PP AUTO ADAPT	Constant pressure	CP AUTO ADAPT
PWM	XX-40	4	25		•							
	XX-50	5	34		•							
	XX-60	6	42		•							
LIN	XX-60	6	42				•					
FLEX AS	XX-60	6	42	•	•			•				
AUTO	XX-60	6	42	•				•	•	•	•	•
HYBRID	XX-60	6	42	•	•	•		•	•	•	•	•

UPM3

UPM3 standard range

Variant	Size	Max. H nom. [m]	Max. P1 nom. [W]	Operating panel	PWM A profile	PWM C profile	LIN bus	Constant curve (CC)	Proportional pressure (PP)	PP AUTO ADAPT	Constant pressure	CP AUTO ADAPT
PWM	XX-50	5	33		•							
	XX-60	6	39		•							
	XX-70	7	52		•	•						
	XX-75	7.5	60		•	•						
LIN	XX-75	7.5	60				•					
FLEX AS	XX-50	5	33	•	•			•				
	XX-70	7	52	•	•			•				
	XX-75	7.5	60	•	•			•				
AUTO	XX-50	5	33	•				•	•	•	•	•
	XX-70	7	52	•				•	•	•	•	•
SOLAR	XX-75	7.5	45	•		•						
	XX-105	10.5	52	•		•						
	XX-145	14.5	60	•		•						
DHW	XX-20	2	11	•	•			•				
	XX-50	5	33	•	•			•				
	XX-70	7	52	•	•			•				
HYBRID	XX-50	5	33	•	•	•		•	•	•	•	•
	XX-70	7	52	•	•	•		•	•	•	•	•

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Overview of technical data

Feature	Specification
Nominal supply voltage	EU: 1 x 230 V + 10 %/- 15 %, 50/60 Hz
Minimum supply voltage	160 VAC (runs with reduced performance)
Motor protection	The motor is protected by the electronics in the control box and requires no external motor protection
Enclosure class	IP44 (standard without drain holes), K-version: IPX4D (with drain holes)
Equipment class	I (EN 60335-1)
Insulation class	F (EN 60335-1)
Temperature class	TF110 at 70 °C ambient temperature UPM3L: TF95 at 55 °C ambient temperature
High voltage protection	EN 60335-1 1000 VAC
Maximum ambient temperature	70 °C at 110 °C or 60 °C at 130 °C. UPM3L: 55 °C at 95 °C
Maximum media temperature	95 °C for composite housings, 110 °C/130 °C for cast iron housings
Minimum media temperature	2 °C (IP44: above dew point of ambient air), K version: -10 °C
Storage temperature	-40 to +75 °C
Maximum system pressure	1 MPa (10 bar) (depending on the housing material)
Minimum inlet pressure	0.005 MPa (0.05 bar) at 75 °C liquid temperature 0.05 MPa (0.50 bar) at 95 °C liquid temperature 0.108 MPa (1.08 bar) at 110 °C liquid temperature
Flow estimation	Available depending on the housing, accuracy: see PWM specification
Drinking water approvals (ACS, WRAS, UBA)	All pump head components are compliant, except for UPM3S. Specific compliant pump housings are available
Deblocking device	Manual deblocking device, access from front side
Deblocking software	Continuously restarting with relay after 1.33 seconds, with NTC every 0.3 - 0.4 seconds with max. torque
Dry run ability - first start	3 x 20 seconds (5 minutes interval), all pumps are lubricated with glycerine
Dry run ability - during operation	Rotor can must be filled with water: meets EN 60335-2-51
Expected lifetime	> 100.000 h (with specified load profile) > 500.000 on/off cycles
Minimum switching time power on/off	With NTC: 1 minute With relay: No specific requirements
Reaction time - power on	With relay: < 2 seconds With NTC < 1 second
Reaction time - standby	With relay: < 2 seconds With NTC < 1 second
Reaction time - speed change	< 1 second
Inrush current	With NTC: < 10 A With relay: < 4 A
Maximum leakage current	≤ 3.5 mA (EN 60335-1)
Speed range	563 to 5991 min^{-1} (depending on the variant)
Relative humidity	Maximum 95 %, non-condensing environment
Standby power consumption	With relay < 1 W. With NTC < 1 W
Sleep mode power consumption	0.4 W
Surge robustness	With relay/NTC > 3 kV (DM/CM)
RF emissions	-6 dB CE / EN 55014-1,-2
Acoustic sound pressure level (LP)	≤ 32 dB(A) on cast iron housings
Maximum altitude of installation	2000 m above sea level

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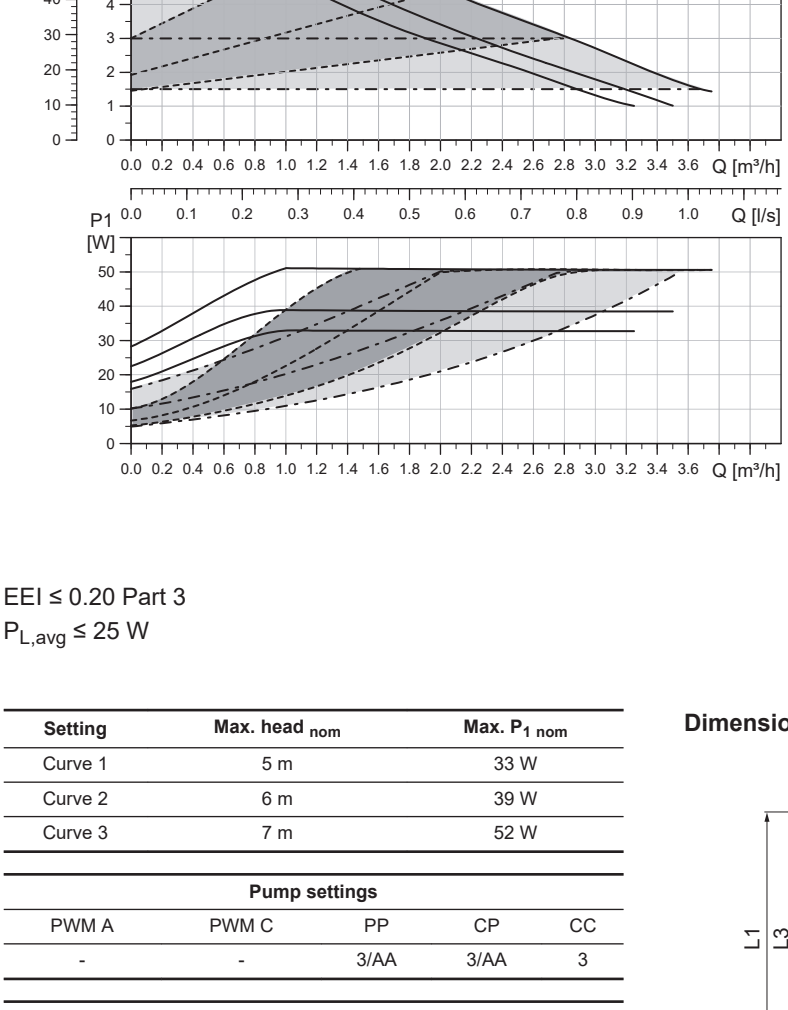
UPM3(K) AUTO XX-70 130/180 (N) (GFNKB)



TM061179

Line type	Description
_____	Constant curve
_ _ _ _ _ _	Proportional pressure
__ · __ · __ · __	Constant pressure

EEI ≤ 0.20 Part 3

$P_{L,avg}$ ≤ 25 W

Setting	Max. head $_{nom}$	Max. $P_{1\ nom}$
Curve 1	5 m	33 W
Curve 2	6 m	39 W
Curve 3	7 m	52 W

Pump settings				
PWM A	PWM C	PP	CP	CC
-	-	3/AA	3/AA	3

Electrical data, 1 x 230 V, 50 Hz		
Speed	**P_1 [W]**	**$I_{1/1}$ [A]**
Min.	2	0.07
Max.	52	0.52

Technical data			
System pressure	Max. 1.0 MPa (10 bar)	**Enclosure class**	IP44 (non-condensing) K: IPX4D (condensing)
Minimum inlet pressure	0.05 MPa (0.50 bar) at 95 °C liquid temperature	**Motor protection**	No external protection needed
Liquid temperature	2-110 °C (TF110)	**Approval and marking**	VDE, CE

Dimensions

TM063879

Pump type	Dimensions [mm]							Connections [inch]	Weight [kg]
	L1	L3	B1	B2	H1	H2	H3		
15-70 130 (N)	130	90	72	45	36	92	128	R 1/2 / G 1	1.8
25-70 130 (N)	130	90	72	45	36	92	128	R 1 / G 1 1/2	1.9
25-70 180 (N)	180	90	72	45	36	92	128	R 1 / G 1 1/2	2.0
32-70 180 (N)	180	90	72	45	36	92	128	R 1 1/4 / G 2	2.2

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