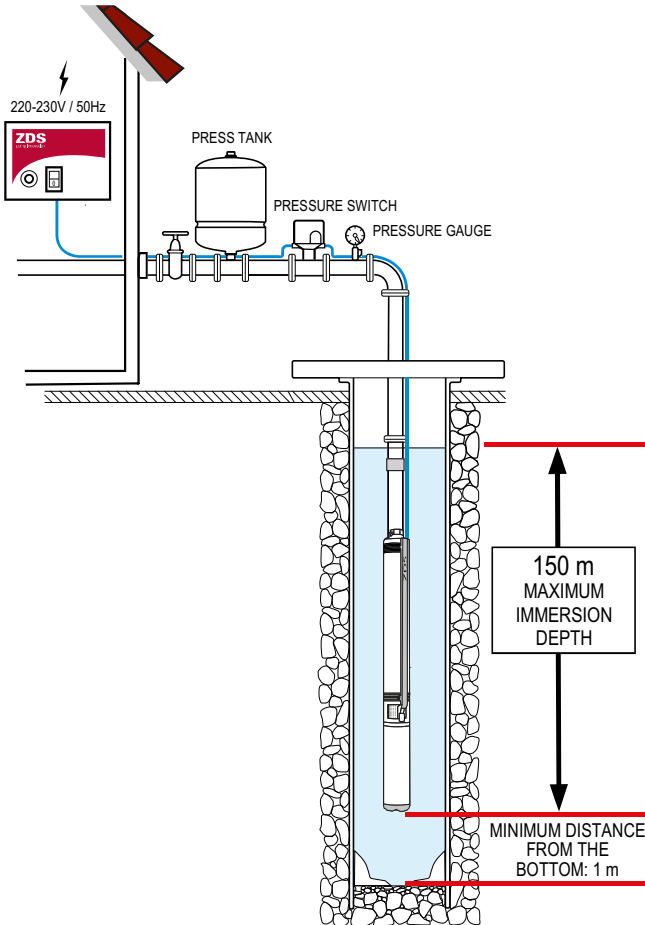


P/X-H3F

4" complete submersible pump, made of ZDS hydraulic part, Franklin single-phase encapsulated PSC water-cooled motor, supply cable in different lengths and ZDS CBH electrical star panel (which includes start and run capacitor).

Reliable, strong, easy to maintain and available in a wide range of models. It can be protected against many possible installation or operation faults thanks to the DRP protection device.



HYDRAULIC PART

QS4P technopolymer or QS4X stainless steel ZDS hydraulic part, with floating ring technology and reinforced impeller.

Great reliability with the integrated non-return valve.

Special design and selected materials to ensure optimal resistance against sand and other abrasives.

Improved impellers design, which requires less starting torque to the motor.

MOTOR

2 pole asynchronous single-phase PSC encapsulated water-cooled Franklin motor.

Axial and radial water-lubricated bearings.

Hermetically resin sealed stator.

Pre-filled with non-contaminating antifreeze lubricant liquid.

Removable lead connector.

Supply cable according to drinking water regulations (ACS), available in different lengths.

TECHNICAL SPECIFICATIONS

Power range:	0,37 - 2,2 kW
Voltage range:	1x220-230V / 50 Hz
Voltage tolerance 50Hz from nominal:	+6% / -10% U _N
Degree of protection:	IP 68
Insulation:	Cl. B
Rated ambient temperature:	max. 30° C
Required cooling flow:	min. 8 cm/sec
Maximum quantity of suspended sand:	120 g/m ³
Maximum starts/h:	20, equally distributed
Mounting:	vertical/horizontal
Maximum immersion depth:	150 m
Allowed range of water PH:	6,4-8,0
Outlet diameter:	1" ¼ G-F - 2" G-F
Maximum delivery (Q):	15.000 l/h
Maximum head (H):	220 m

OPTIONAL



DRP:
INTEGRATED DRP -
DRY RUNNING
PROTECTION

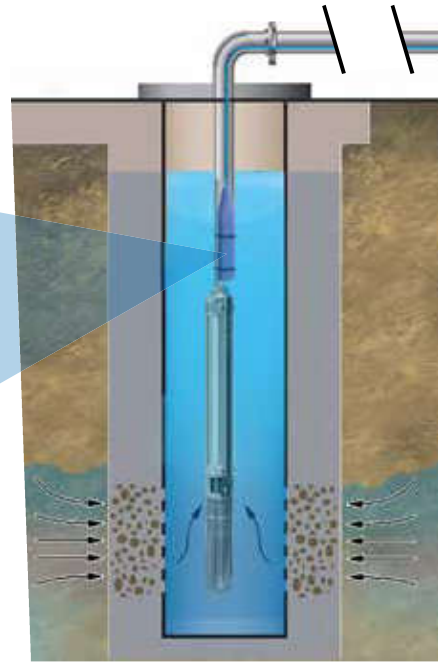


CBH - Electric start panel

Motor start and operation system with capacitor, equipped with thermal amperometric protection against current overload, ON/OFF illuminated switch, terminal box, cable glands, power supply cable, mounting accessories.

APPLICATIONS

Submersible pump designed to be used in 4" boreholes (or larger) and tanks, for lifting, distribution, pressurization of water in water systems.

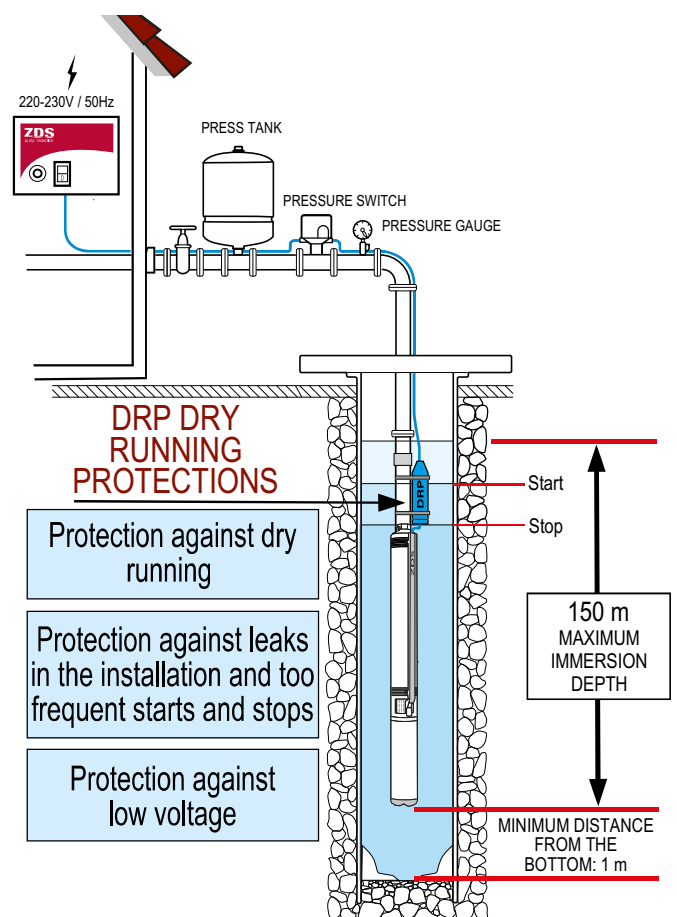


DRP is an electronic device that guarantees optimal protection of the submersible pump from dry running, positioned in the pump supply cable just above the pump. In case of water shortage, the DRP stops the pump immediately, the water drops below the DRP to allow water to flow into the bore hole. Thus the pump operation is directly proportional to the water supply for optimum efficiency. In contrast to traditional solutions, no additional cables, sensors and control boxes are needed. The DRP device has been developed and tested to make the submersible pump function autonomously in conditions of water shortage. The DRP is ready to use, integrated into the connection cable and needs no further installation.

CHARACTERISTICS
Automatic programmed restarts in case of protection
Stand-by mode at maximum number of restart attempts overcoming
Ready to use, doesn't need any further calibration or setting up

DRP Protection	
	Protection against dry running and lack of water in the well The DRP completely protects the submersible pump against lack of water in the well, without the aid of other equipment (probes, cables, sensors, control panels etc.). In case of dry running, the DRP automatically stops the pump. When the water level is restored in the well, the DRP restarts the pump after a programmed cycle time.
	Protection against leaks in the installation and too frequent starts and stops The DRP protects the submersible pump against leaks in the piping system (also when the pressure tank is exhausted or its membrane is defective, or when there is a defective pressure switch) and too frequent starts and stops (for example if the tank is too small for the system). In such cases to avoid potential damages, the DRP, after some automatic re-start attempts, makes the pump enter the stand-by mode.
	Protection against low voltage The DRP protects the submersible pump against low voltage, that can damage the motor.

Technical Specifications	
Casing:	Thermoplastic material
Voltage range:	1x220-230V +6% / -10% / 50 Hz
Degree of protection:	IP 68
Rated ambient temperature:	-10/+40° C
Size (cm):	33 x 5 x 3



Model	Power		P.C.*	C.C.**	In	Hydraulic performance (n~2.850 min ⁻¹)						Cable 1.5 m		Cable 15 m		Cable 30 m																																										
	kW	HP				m ³ /h	0	0.6	1.5	2.4	4.2	6	Code	Code	Code																																											
																(A)	l/min	0	10	25	40	70	100																																			
PUMP CURVE 1	P.1-8.H3F	0,25	0,33	0,49	2,3	Total head in meters = H= dynamic total pressure	50,2	44,4	18									182079614F	182079614F1	182079614F2																																						
	P.1-8.H3F.DRP																	182079614FS	182079614FS1	182079614FS2																																						
	P.1-12.H3F	0,37	0,5	0,69	3,2													75,4	66,6	27																																						
	P.1-12.H3F.DRP																															182079616F	182079616F1	182079616F2																								
	P.1-18.H3F	0,55	0,75	0,87	4,3																											113	99,9	40,5																								
	P.1-18.H3F.DRP																																													182079719F	182079719F1	182079719F2										
	P.1-25.H3F	0,75	1	1,23	5,6																																									157	138,8	56,3										
P.1-25.H3F.DRP	182079620F					182079620F1	182079620F2																																																			
PUMP CURVE 2	P.2-5.H3F	0,25	0,33	0,59	2,2	Total head in meters = H= dynamic total pressure	32	31,2	28,2	17																																																
	P.2-5.H3F.DRP																	182079622F	182079622F1	182079622F2																																						
	P.2-8.H3F	0,37	0,5	0,73	3,3													51,2	49,9	41,9	27,2																																					
	P.2-8.H3F.DRP																														182079624F	182079624F1	182079624F2																									
	P.2-12.H3F	0,55	0,75	0,97	4,4																										76,8	74,9	62,9	40,8																								
	P.2-12.H3F.DRP																																											182079626F	182079626F1	182079626F2												
	P.2-16.H3F	0,75	1	1,27	6																																							102,4	99,8	83,8	54,4											
	P.2-16.H3F.DRP																																																								182079628F	182079628F1
	P.2-24.H3F	1,1	1,5	1,7	8,4																																																				153,6	149,8
P.2-24.H3F.DRP	182079630F					182079630F1	182079630F2																																																			
PUMP CURVE 3	P.3-6.H3F	0,37	0,5	0,7	3,1	Total head in meters = H= dynamic total pressure	33,3		30,4	27	13,7																																															
	P.3-6.H3F.DRP																	182079632F	182079632F1	182079632F2																																						
	P.3-9.H3F	0,55	0,75	0,93	3,9													50		45,6	40,5	20,6																																				
	P.3-9.H3F.DRP																													182079634F	182079634F1	182079634F2																										
	P.3-13.H3F	0,75	1	1,24	5,9																									72,2		65,9	58,5	29,8																								
	P.3-13.H3F.DRP																																									182079636F	182079636F1	182079636F2														
	P.3-19.H3F	1,1	1,5	1,66	7,9																																					105,5		96,3	85,5	43,5												
P.3-19.H3F.DRP	182079638F																																																					182079638F1	182079638F2			
P.3-25.H3F	1,5	2	2,23	10,1	138,8																																																		126,8	112,5	57,3	
P.3-25.H3F.DRP						182079648F	182079648F1	182079648F2																																																		
PUMP CURVE 5	P.5-4.H3F	0,37	0,5	0,72		3,2	Total head in meters = H= dynamic total pressure	24,5			22	18,5	12,1																																													
	P.5-4.H3F.DRP																	182079640F	182079640F1	182079640F2																																						
	P.5-6.H3F	0,55	0,75	0,95		4,1												36,8			33	27,7	18,2																																			
	P.5-6.H3F.DRP																												182079642F	182079642F1	182079642F2																											
	P.5-8.H3F	0,75	1	1,23		5,6																							49,1			44	37	24,2																								
	P.5-8.H3F.DRP																																							182079644F	182079644F1	182079644F2																
	P.5-13.H3F	1,1	1,5	1,7		8,5																																		79,7			71,5	60,1	39,4													
	P.5-13.H3F.DRP				182079646F																																														182079646F1	182079646F2						
	P.5-17.H3F	1,5	2	2,3	10,7	104,3																																															93,5	78,5	51,5			
	P.5-17.H3F.DRP						182079650F	182079650F1	182079650F2																																																	
	P.5-21.H3F	2,2	3	2,75	14		128,8			115,5	97	63,6																																														
P.5-21.H3F.DRP	182079652F																	182079652F1	Not available																																							

*Power consumption **Current consumption

CBH included in the price.

Product codes and hydraulics performance data

X.H3F complete submersible pump



Hydraulic part with upper head and lower support in **stainless steel** and PSC single-phase encapsulated water-cooled motor - 220-230V

Model	Power		P.C.*	C.C.**	Hydraulic performance (n~2.850 min ⁻¹)											Cable 1,5 m		Cable 15 m		Cable 30 m	
	kW	HP			In (A)	m ³ /h l/min	0	0,6	1,5	2,4	4,2	6	11,4	15	Code	Code	Code				
							0	10	25	40	70	100	190	250							
PUMP CURVE 1	X.1-8.H3F	0,25	0,33	0,49	2,3	50,2	44,4	18						196071614F	196071614F1	196071614F2					
	X.1-8.H3F.DRP														196071614FS	196071614FS1	196071614FS2				
	X.1-12.H3F	0,37	0,5	0,69	3,2	75,4	66,6	27						196071616F	196071616F1	196071616F2					
	X.1-12.H3F.DRP														196071616FS	196071616FS1	196071616FS2				
	X.1-18.H3F	0,55	0,75	0,87	4,3	113	99,9	40,5						196071618F	196071618F1	196071618F2					
	X.1-18.H3F.DRP														196071618FS	196071618FS1	196071618FS2				
	X.1-25.H3F	0,75	1	1,23	5,6	157	138,8	56,3						196071620F	196071620F1	196071620F2					
	X.1-25.H3F.DRP														196071620FS	196071620FS1	196071620FS2				
X.1-36.H3F	1,1	1,5	1,69	8,4	226,1	199,8	91						196071622F	196071622F1	196071622F2						
X.1-36.H3F.DRP														196071622FS	196071622FS1	196071622FS2					
PUMP CURVE 2	X.2-5.H3F	0,25	0,33	0,59	2,2	32	31,2	28,2	17					196071626F	196071626F1	196071626F2					
	X.2-5.H3F.DRP														196071626FS	196071626FS1	196071626FS2				
	X.2-8.H3F	0,37	0,5	0,73	3,3	51,2	49,9	41,9	27,2					196071628F	196071628F1	196071628F2					
	X.2-8.H3F.DRP														196071628FS	196071628FS1	196071628FS2				
	X.2-12.H3F	0,55	0,75	0,97	4,4	76,8	74,9	62,9	40,8					196071712F	196071712F1	196071712F2					
	X.2-12.H3F.DRP														196071712FS	196071712FS1	196071712FS2				
	X.2-16.H3F	0,75	1	1,27	6	102,4	99,8	83,8	54,4					196071716F	196071716F1	196071716F2					
	X.2-16.H3F.DRP														196071716FS	196071716FS1	196071716FS2				
	X.2-24.H3F	1,1	1,5	1,7	8,4	153,6	149,8	125,8	81,6					196071724F	196071724F1	196071724F2					
	X.2-24.H3F.DRP														196071724FS	196071724FS1	196071724FS2				
X.2-32.H3F	1,5	2	2,3	10,6	204,7	199,7	167,7	108					196071630F	196071630F1	196071630F2						
X.2-32.H3F.DRP														196071630FS	196071630FS1	196071630FS2					
PUMP CURVE 3	X.3-6.H3F	0,37	0,5	0,7	3,1	33,3		30,4	27	13,7				196071636F	196071636F1	196071636F2					
	X.3-6.H3F.DRP														196071636FS	196071636FS1	196071636FS2				
	X.3-9.H3F	0,55	0,75	0,93	3,9	50		45,6	40,5	20,6				196071638F	196071638F1	196071638F2					
	X.3-9.H3F.DRP														196071638FS	196071638FS1	196071638FS2				
	X.3-13.H3F	0,75	1	1,24	5,9	72,2		65,9	58,5	29,8				196071640F	196071640F1	196071640F2					
	X.3-13.H3F.DRP														196071640FS	196071640FS1	196071640FS2				
	X.3-19.H3F	1,1	1,5	1,66	7,9	105,5		96,3	85,5	43,5				196071819F	196071819F1	196071819F2					
X.3-19.H3F.DRP														196071819FS	196071819FS1	196071819FS2					
X.3-25.H3F	1,5	2	2,23	10,1	138,8		126,8	112,5	57,3				196071642F	196071642F1	196071642F2						
X.3-25.H3F.DRP														196071642FS	196071642FS1	196071642FS2					
PUMP CURVE 5	X.5-4.H3F	0,37	0,5	0,72	3,2	24,5			22	18,5	12,1			196071646F	196071646F1	196071646F2					
	X.5-4.H3F.DRP														196071646FS	196071646FS1	196071646FS2				
	X.5-6.H3F	0,55	0,75	0,95	4,1	36,8			33	27,7	18,2			196071648F	196071648F1	196071648F2					
	X.5-6.H3F.DRP														196071648FS	196071648FS1	196071648FS2				
	X.5-8.H3F	0,75	1	1,23	5,6	49,1			44	37	24,2			196071650F	196071650F1	196071650F2					
	X.5-8.H3F.DRP														196071650FS	196071650FS1	196071650FS2				
	X.5-13.H3F	1,1	1,5	1,7	8,5	79,7			71,5	60,1	39,4			196071652F	196071652F1	196071652F2					
	X.5-13.H3F.DRP														196071652FS	196071652FS1	196071652FS2				
	X.5-17.H3F	1,5	2	2,3	10,7	104,3			93,5	78,5	51,5			196071654F	196071654F1	196071654F2					
	X.5-17.H3F.DRP														196071654FS	196071654FS1	196071654FS2				
X.5-21.H3F	2,2	3	2,8	14	128,8			115,5	97	63,6			196071656F	196071656F1	Not available						
X.5-21.H3F.DRP														196071656FS	196071656FS1	Not available					
PUMP CURVE 8	X.8-6.H3F	0,75	1	1,24	5,8	38,4			29	24,5	4,8			196071660F	196071660F1	196071660F2					
	X.8-6.H3F.DRP														196071660FS	196071660FS1	196071660FS2				
	X.8-8.H3F	1,1	1,5	1,54	7,4	51,2			38,6	32,7	6,4			196071662F	196071662F1	196071662F2					
	X.8-8.H3F.DRP														196071662FS	196071662FS1	196071662FS2				
	X.8-12.H3F	1,5	2	2,25	10,3	76,8			58	49	9,6			196071664F	196071664F1	196071664F2					
	X.8-12.H3F.DRP														196071664FS	196071664FS1	196071664FS2				
X.8-17.H3F	2,2	3	3,05	15	109			82,1	69,4	13,6			196071666F	196071666F	Not available						
X.8-17.H3F.DRP														196071666FS	196071666FS1	Not available					
P.C.10	X.10-8.H3F	1,5	2	2,6	10	48,2			42,6	39,2	23,1	7,9		196071668F	196071668F1	196071668F2					
	X.10-8.H3F.DRP														196071668FS	196071668FS1	196071668FS2				
	X.10-12.H3F	2,2	3	2,9	14,8	72,3			64	58,8	34,7	11,9		196071670F	196071670F1	Not available					
	X.10-12.H3F.DRP														196071670FS	196071670FS1	Not available				

Total head in meters = H = dynamic total pressure

*Power consumption **Current consumption

CBH included in the price.