

**50 Hz**



# Z8, Z10, Z12 Series

8" - 10" - 12" SUBMERSIBLE  
ELECTRIC PUMPS

Cod. 191005681 Rev.A Ed.11/2017

 **gloor  
pumpenbau**

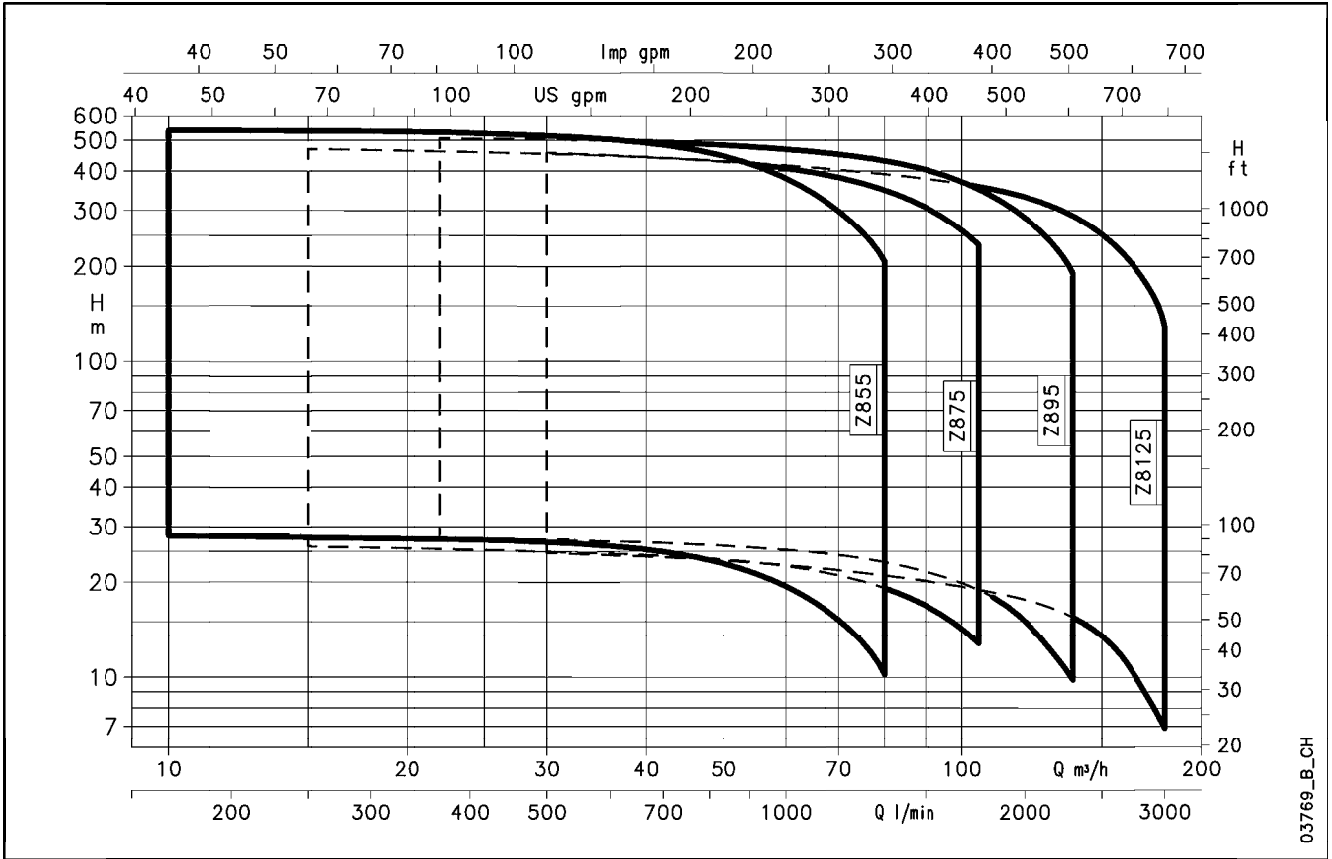
 **LOWARA**  
a xylem brand



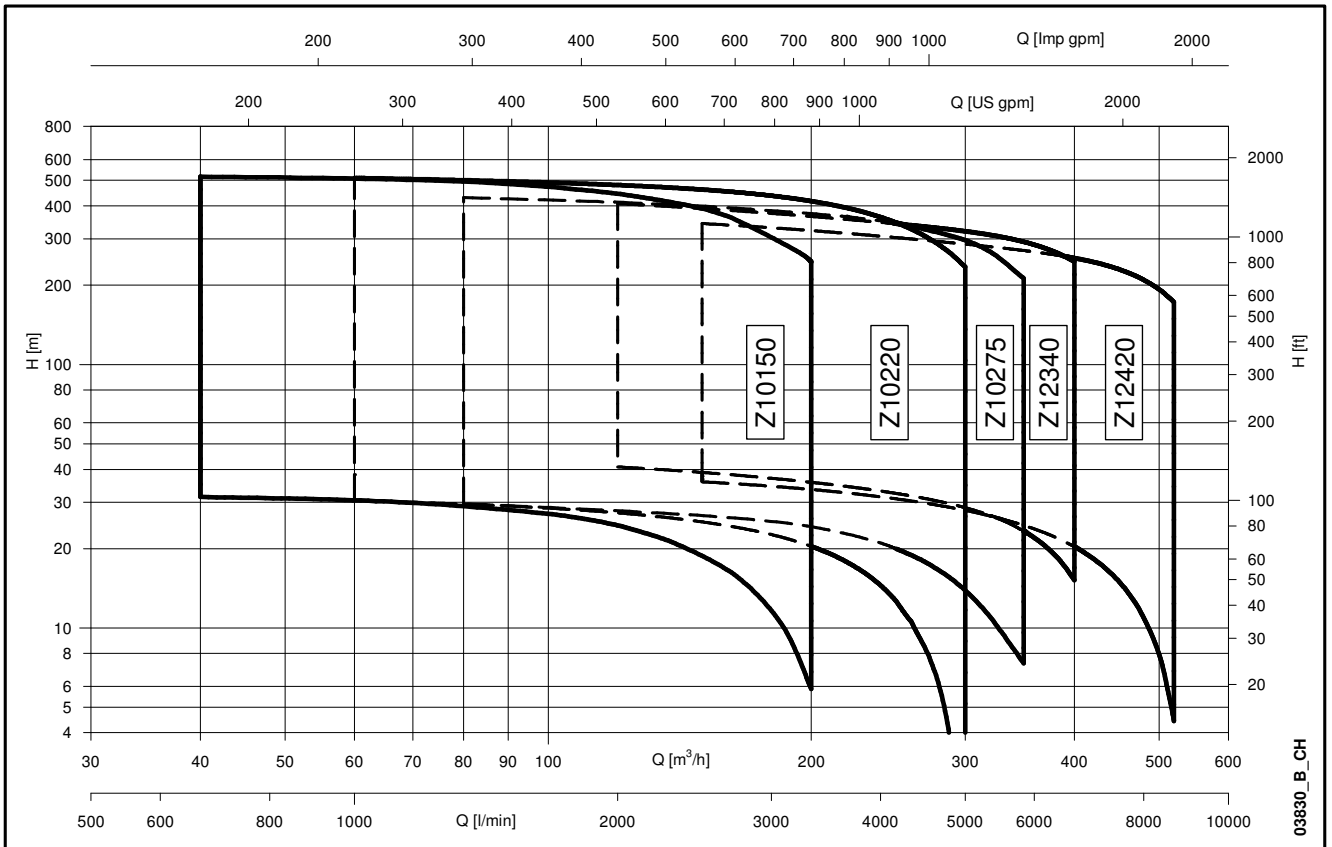
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## Z8 SERIES HYDRAULIC PERFORMANCE RANGE



## Z10, Z12 SERIES HYDRAULIC PERFORMANCE RANGE



## 8" Submersible Electric Pumps

### Z855, Z875 Z895, Z8125 Series

#### MARKET SECTORS

AGRICULTURE, INDUSTRY, MUNICIPAL.

#### APPLICATIONS

- Water supply from deep wells.
- Pressure boosting and water distribution
- Supply of surge tanks and reservoirs.
- Firefighting and washing systems.
- Water table level control.
- Irrigation.
- Mines.



#### SPECIFICATIONS

- **Delivery:** up to 180 m<sup>3</sup>/h.
- **Head:** up to 550 m.
- **Maximum pump overall diameter (2 cable covers included):** 198 mm for all versions.
- **Maximum electric pump immersion depth:** 350 m.
- **Maximum permissible quantity of suspended sand:** 100 g/m<sup>3</sup>.
- **Standard delivery outlet:** Rp 5" for all versions.
- **Motor power:** from 5,5 to 150 kW
- **Construction materials available:** AISI304 and AISI316 stainless steel (Z8), DUPLEX stainless steel (ZR8).
- **Horizontal installation possible (it is recommended to have an incline of at least 3° with the motor on the lowest position).**

#### CONSTRUCTION FEATURES

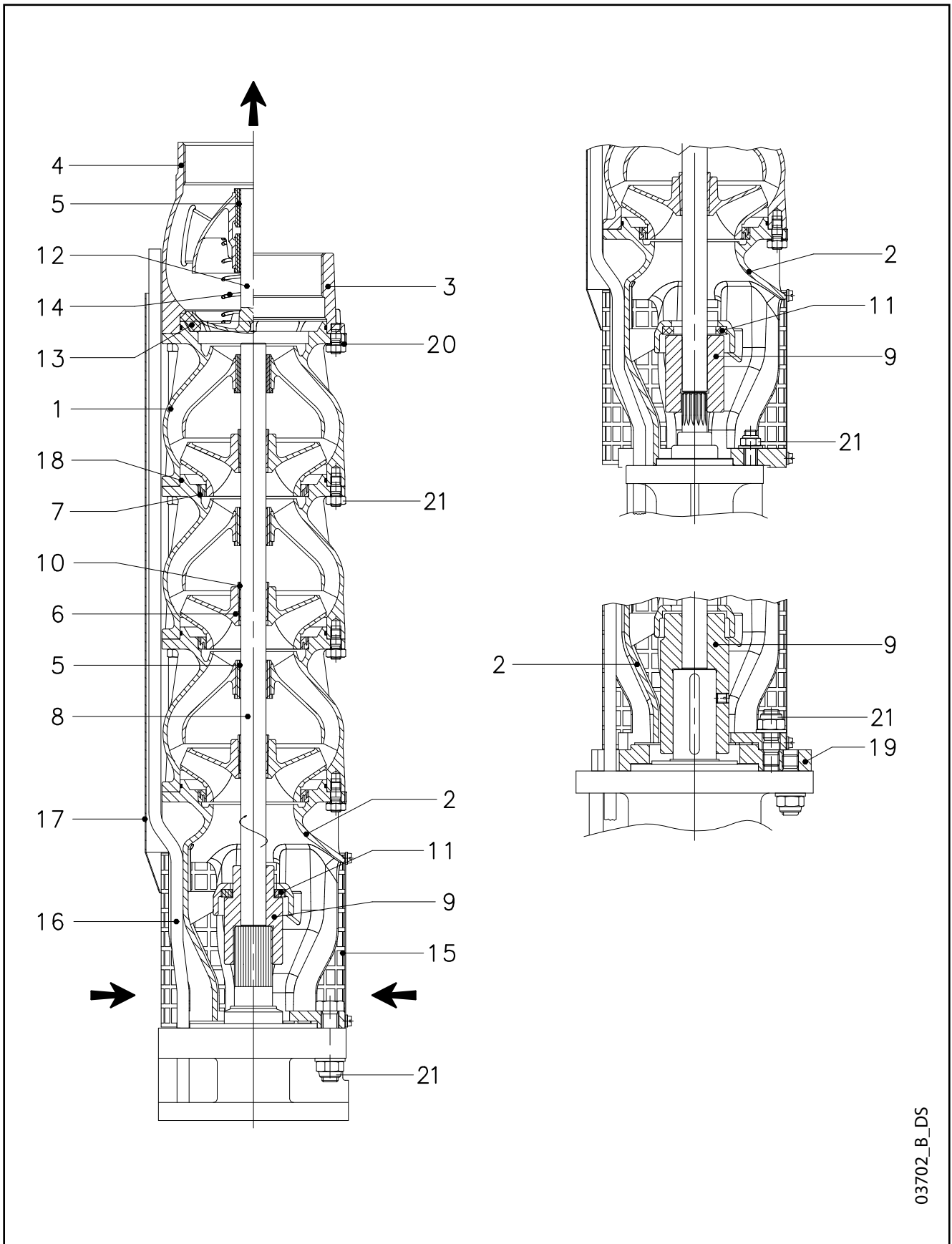
- Electric pumps sturdy and lightweight, easy maintenance and resistant to corrosion in non-aggressive environments.
- **Impellers and diffusers** made of microcast stainless steel.
- **Delivery casting** made of microcast stainless steel.
- **Non-return valve** made of stainless steel stainless steel, with integrated spring.
- **Suction support** made of microcast stainless steel.
- **Shaft** made of stainless steel.
- **Coupling and flange mounting** dimensions meet NEMA standards.

#### OPTIONAL FEATURES

- Customized impeller versions.

#### ACCESSORIES

- Coupling flanges.
- Control panels.
- Drop cables.
- Cable joints
- Cooling shrouds.

**Z8 SERIES PUMPS  
PUMP CROSS SECTION AND LIST OF COMPONENTS**


03702\_B\_DS

## TABLE OF MATERIALS Z8

REF. N°	COMPONENT	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Diffuser	Acciaio inox	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
2	Lower support / Suction Casing	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
3	Delivery head	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
4	Valve Casing	Acciaio inox	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
5	Bearing bush	EPDM + Lubricant		
6	Impeller	Stainless steel	EN 10213-GX5CrNi19-11 (1.4308)	A744-CF 8
7	Wear ring	Tecnopolymer POM-C		
8	Pump shaft	Stainless steel	EN 10088-1-X17CrNi16-2 (1.4057)	AISI 431
9	Coupling	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
10	Taperlock	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
11	Thrust Bearing	PTFE + 25% carbon		
12	Valve	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
13	Valve seal	NBR 90		
14	Valve spring	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
15	Suction strainer	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
16	Motor cable			
17	Cable protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
18	Diffuser O-Ring	NBR 70		
19	10" motor adapter			
20	Clamplng plate			
21	Screw, stud, nut	Stainless steel	ISO 3506-1/2 A4-70	AISI 316

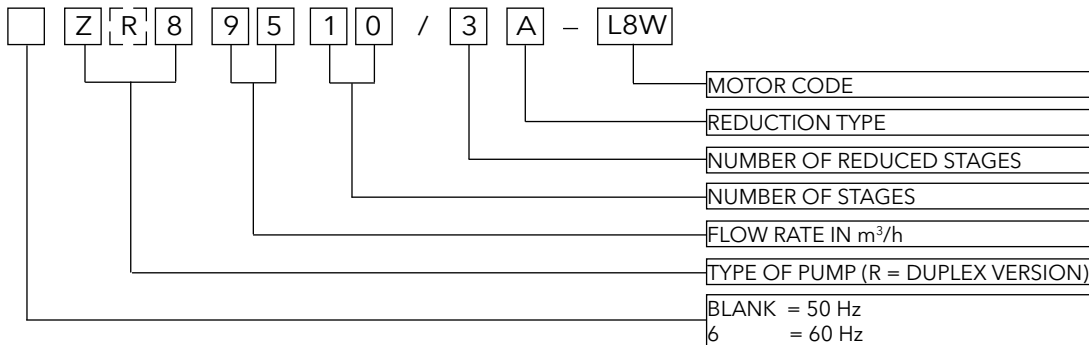
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## TABLE OF MATERIAL ZR8

REF. N°	COMPONENT	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Diffuser	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
2	Lower support / Suction Casing	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	A744-CF 8
3	Delivery head	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	A744-CF 8
4	Valve Casing	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	A744-CF 8
5	Bearing bush	EPDM + Lubricant		
6	Impeller	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	A744-CF 8
7	Wear ring	Tecnopolymer POM-C		
8	Pump shaft	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Coupling	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
10	Taperlock	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
11	Thrust Bearing	PTFE + 25% carbon		
12	Valve	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
13	Valve seal	NBR 90		
14	Valve spring	Hastelloy C4	DIN17744-NiMo16Cr16Ti (2.4610)	N06455
15	Suction strainer	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
16	Motor cable			
17	Cable protection	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
18	Diffuser O-Ring	NBR 70		
19	10" motor adapter			
20	Clamplng plate			
21	Screw, stud, nut	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803

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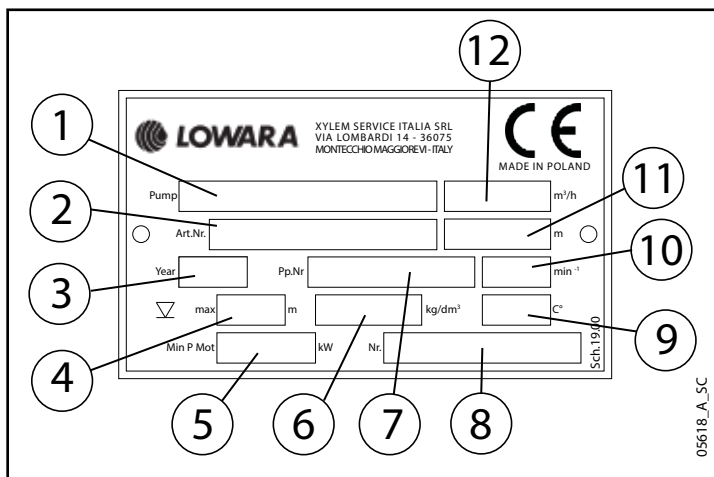
## Z8-ZR8 SERIES IDENTIFICATION CODES



EXAMPLE : ZR8 9510/3A - L8W

8" electric pump, 50 Hz, made of DUPLEX, flow rate 95 m<sup>3</sup>/h, 10 stages including 3 reduced ones, coupled to an 8" L8W motor.

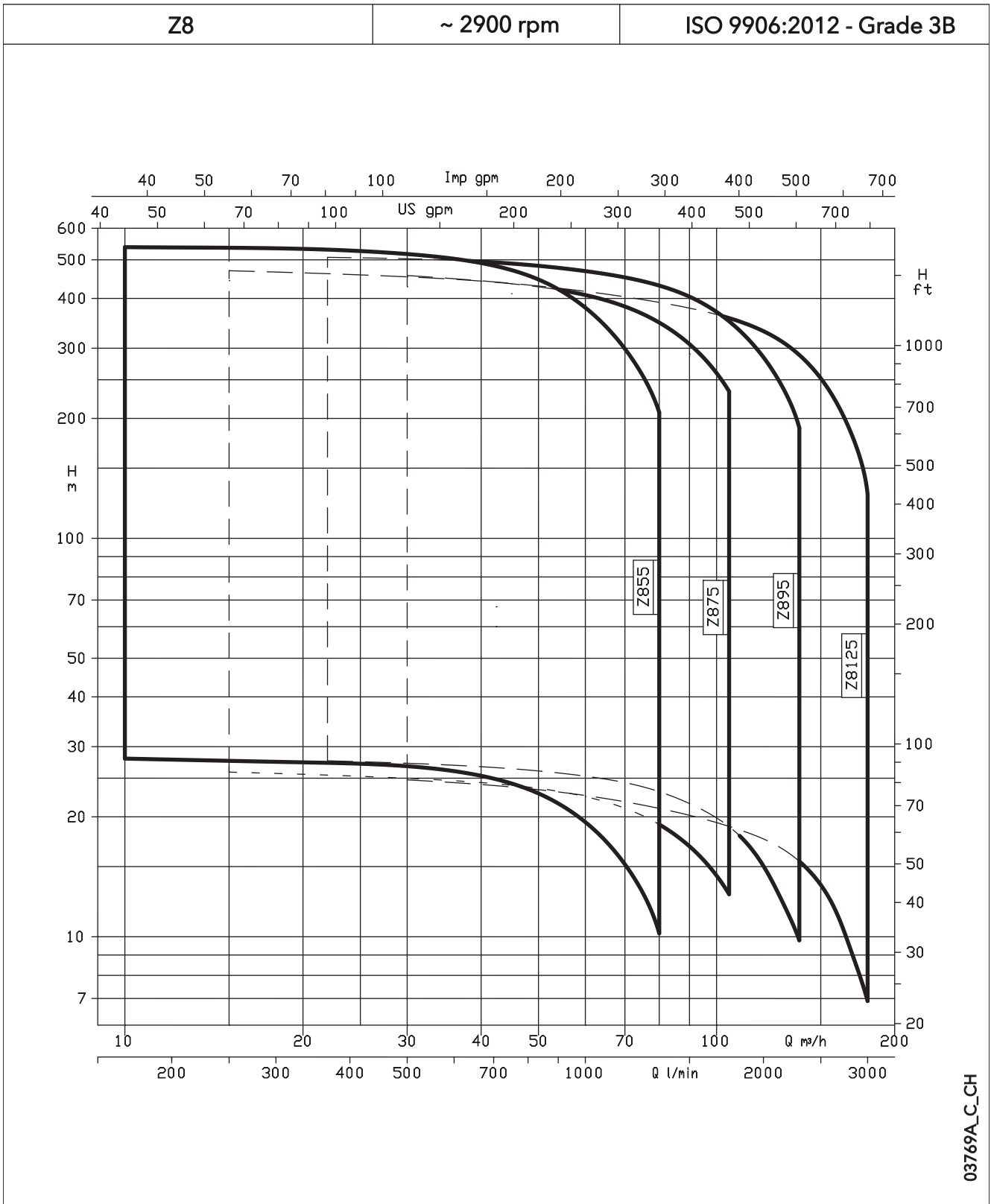
## Z8-ZR8 SERIES RATING PLATE



### LEGEND

- 1 - Pump type
- 2 - Article code of the pump
- 3 - Year of production
- 4 - Max. immersion depth
- 5 - Min. required motor power
- 6 - Density of medium
- 7 - Data set entry for additional identification
- 8 - Serial number
- 9 - Max. water temperature
- 10 - Speed
- 11 - Head
- 12 - Nominal flow



**Z8 SERIES  
HYDRAULIC PERFORMANCE RANGE**


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## Z855 SERIES, 1 TO 7 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

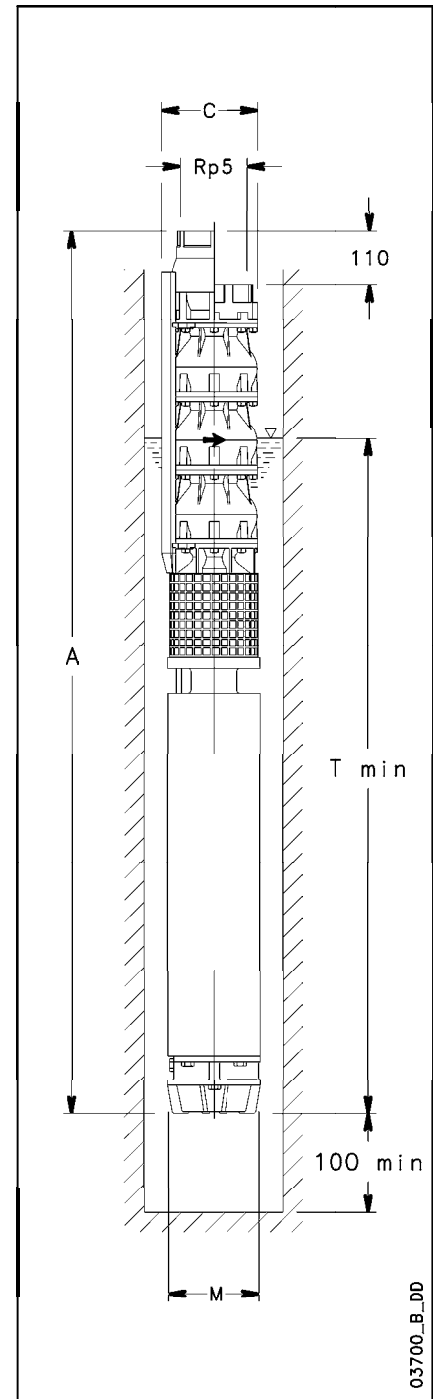
PUMP TYPE	MOTOR POWER kW	Q = DELIVERY						
		l/min	0	167	500	833	1217	1333
		m <sup>3</sup> /h	0	10	30	50	73	80
H = TOTAL HEAD METRES COLUMN OF WATER								
Z855 01	5,5	28,7	28	27	23	14	10,2	
Z855 02/2A	7,5	45,7	44,4	43	35	14,9		
Z855 02/1A	7,5	51,3	49,9	48	40	20,5		
Z855 02	9,3	57	55,6	53	45	27	19,7	
Z855 03/2A	11	74,2	72,1	69	57	27,7		
Z855 03	15	86,1	83,9	80	69	41	30,7	
Z855 04/2A	15	102,7	99,9	96	79	41		
Z855 04	18,5	114,6	111,7	107	91	55	40,7	
Z855 05/3A	18,5	125,6	122,2	117	97	49		
Z855 05/2A	22	132,3	128,8	124	104	56,7		
Z855 05	22	143,5	139,8	134	114	68	50,5	
Z855 06/2A	26	160,7	156,6	150	127	70,9		
Z855 06	30	172	167,6	160	137	83	61,3	
Z855 07/2A	30	188,6	183,6	176	148	82,3		
Z855 07	30	199,7	194,5	186	158	93	68,8	

z855-2p50-en\_b\_th

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRO PUMP TYPE	DIMENSIONS (mm)				ELECTRO PUMP WEIGHT kg <sup>(3)</sup>
	A <sup>(4)</sup>	C <sup>(1)</sup>	M	Tmin <sup>(2)</sup>	
Z855 01-L6W	1173	200	144	1613	68,6
Z855 02/2A-L6W	1348	200	144	1653	81,2
Z855 02/1A-L6W	1348	200	144	1653	81,2
Z855 02-L6W	1378	200	144	1683	85,2
Z855 03/2A-L6W	1553	200	144	1723	97,9
Z855 03-L6W	1663	200	144	1833	109,9
Z855 04/2A-L6W	1798	200	144	1833	118,5
Z855 04-L6W	1868	200	144	1903	126,5
Z855 05/3A-L6W	2003	200	144	1903	135,2
Z855 05/2A-L6W	2043	200	144	1943	138,2
Z855 05-L6W	2043	200	144	1943	138,2
Z855 06/2A-L6W	2306	200	144	2071	155,8
Z855 06-L6W	2386	200	144	2151	163,8
Z855 07/2A-L6W	2521	200	144	2151	172,5
Z855 07-L6W	2521	200	144	2151	172,5

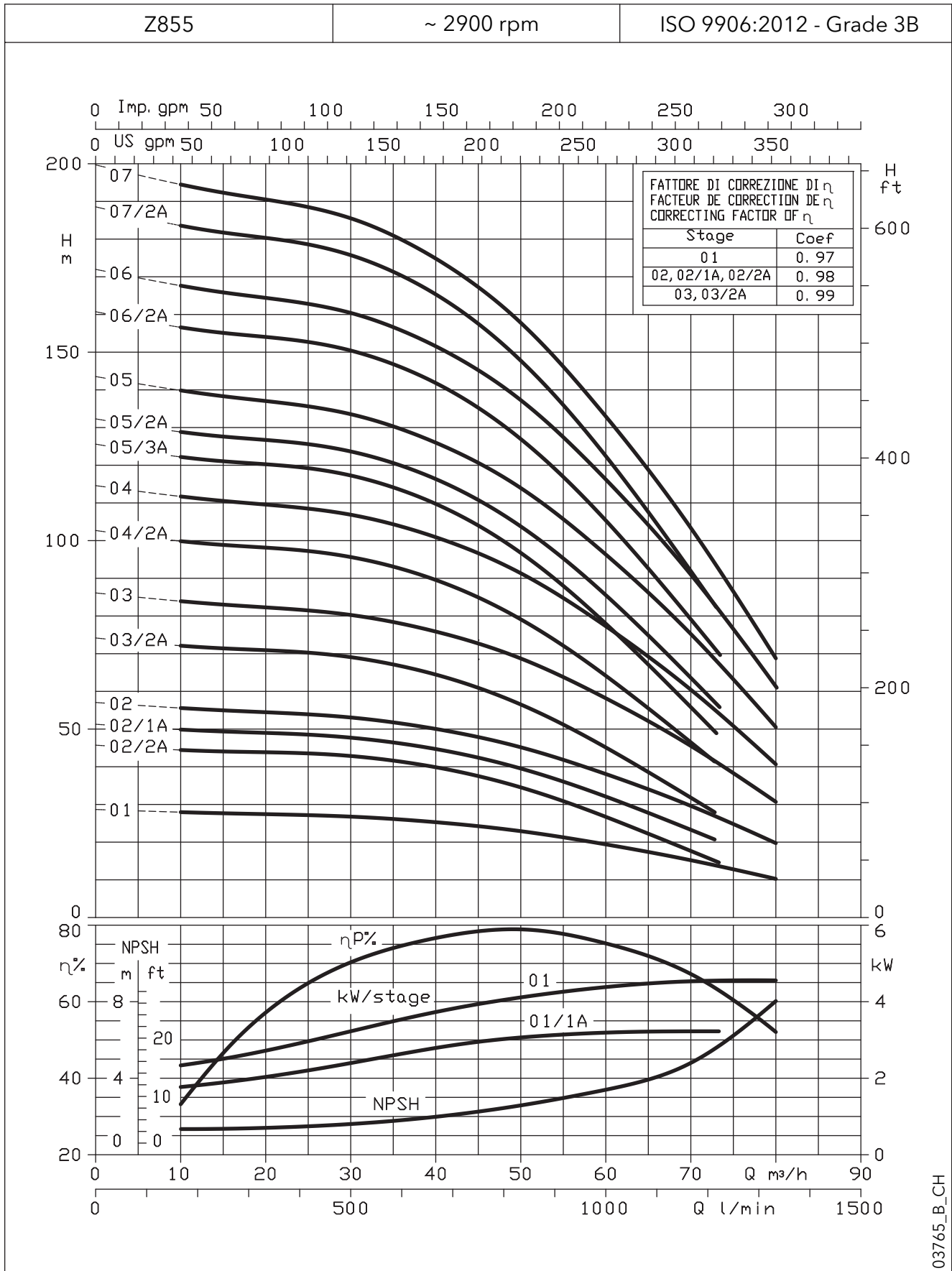
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- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 198 mm with L6W motor.
- 2) Tmin valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 110 mm, and reduce weight by 4 Kg.

### Z855 SERIES, 1 TO 7 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



The flow resistance of the non-return valve has been considered.  
 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z855 SERIES, 8 TO 19 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

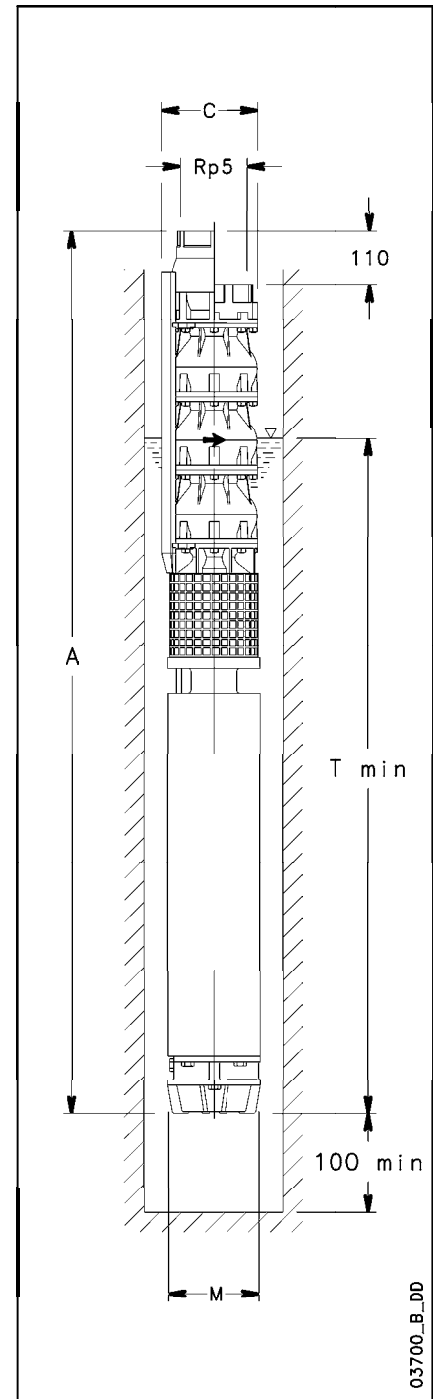
PUMP TYPE	MOTOR POWER kW	Q = DELIVERY						
		Vmin	0	167	500	833	1217	1333
		m <sup>3</sup> /h	0	10	30	50	73	80
H = TOTAL HEAD METRES COLUMN OF WATER								
Z855 08/2A	37	217	211,5	202,8	171	96,1		
Z855 08	37	228,3	222,5	212,7	181	107,3	79,4	
Z855 09/2A	37	244,8	238,3	227,8	191,2	106,8		
Z855 09	45	260,6	254,2	244,3	210,6	128,5	96,9	
Z855 10/2A	45	277,5	270,5	260,1	221,5	128,4		
Z855 10	45	288,8	281,7	270,3	231,9	140,2	105,2	
Z855 11/2A	45	305,6	298	286,6	244,8	143,2		
Z855 11	52	316,9	309,2	296,8	255,4	155,4	116,9	
Z855 12	52	346,6	338,3	324,8	279,8	170,5	128,5	
Z855 13	55	375,3	366,1	351,3	302,3	183,7	138,2	
Z855 14	67	404,5	394,7	379,1	326,6	198,9	149,9	
Z855 15	67	432,8	422,2	404,9	348	210,9	158,4	
Z855 16	75	461,6	450,3	432,1	372,2	226,5	170,5	
Z855 17	75	491,8	479,8	461,2	398,8	244,6	185	
Z855 18	83	520	507,3	487,4	420,8	257	194	
Z855 19	93	551,2	538	517	446,3	273,5	206,9	

z855a-2p50-en\_b\_th

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRO PUMP TYPE	DIMENSIONS (mm)				ELECTRO PUMP WEIGHT kg <sup>(3)</sup>
	A <sup>(4)</sup>	C <sup>(1)</sup>	M	Tmin <sup>(2)</sup>	
Z855 08/2A-L6W	2806	200	144	2301	195,1
Z855 08-L6W	2806	200	144	2301	195,1
Z855 09/2A-L6W	2941	200	144	2301	203,8
Z855 09-L8W	2835	203,3	192	2195	275,1
Z855 10/2A-L8W	2970	203,3	192	2195	283,8
Z855 10-L8W	2970	203,3	192	2195	283,8
Z855 11/2A-L8W	3105	203,3	192	2195	292,4
Z855 11-L8W	3195	203,3	192	2285	312,4
Z855 12-L8W	3330	203,3	192	2285	321,1
Z855 13-L8W	3370	203,3	192	2325	335,7
Z855 14-L8W	3780	203,3	192	2465	373,4
Z855 15-L8W	3915	203,3	192	2465	382
Z855 16-L8W	4140	203,3	192	2555	407,7
Z855 17-L8W	4275	203,3	192	2555	416,3
Z855 18-L8W	4470	203,3	192	2615	438
Z855 19-L8W	4725	203,3	192	2755	471,6

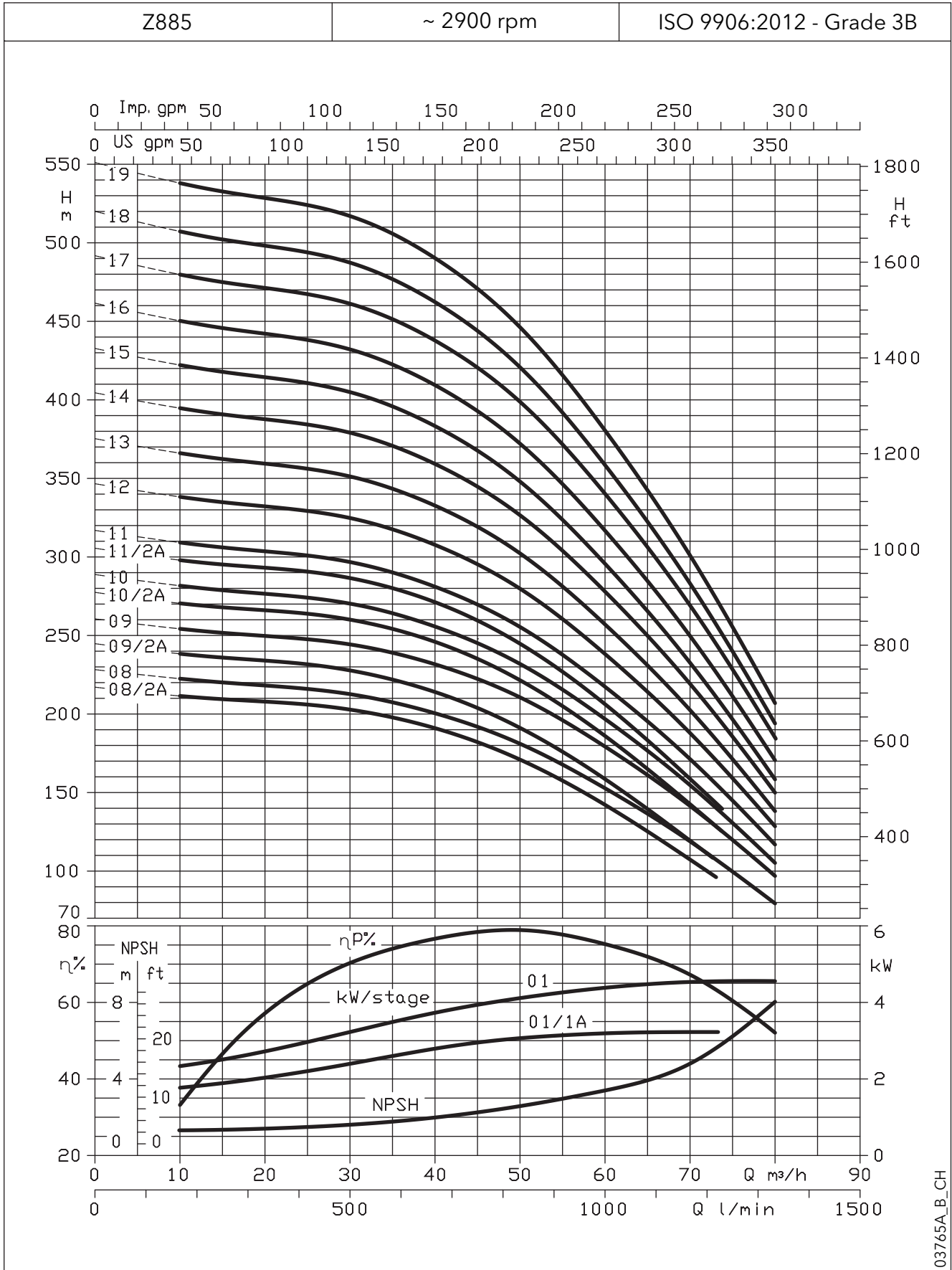
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- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 198 mm with L6W motor.  
C = 201,5 mm with L8W motor.
- 2) Tmin valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 110 mm, and reduce weight by 4 Kg.

### Z855 SERIES, 8 TO 19 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



03765A\_B\_CH

The flow resistance of the non-return valve has been considered.  
 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z875 SERIES, 1 TO 6 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

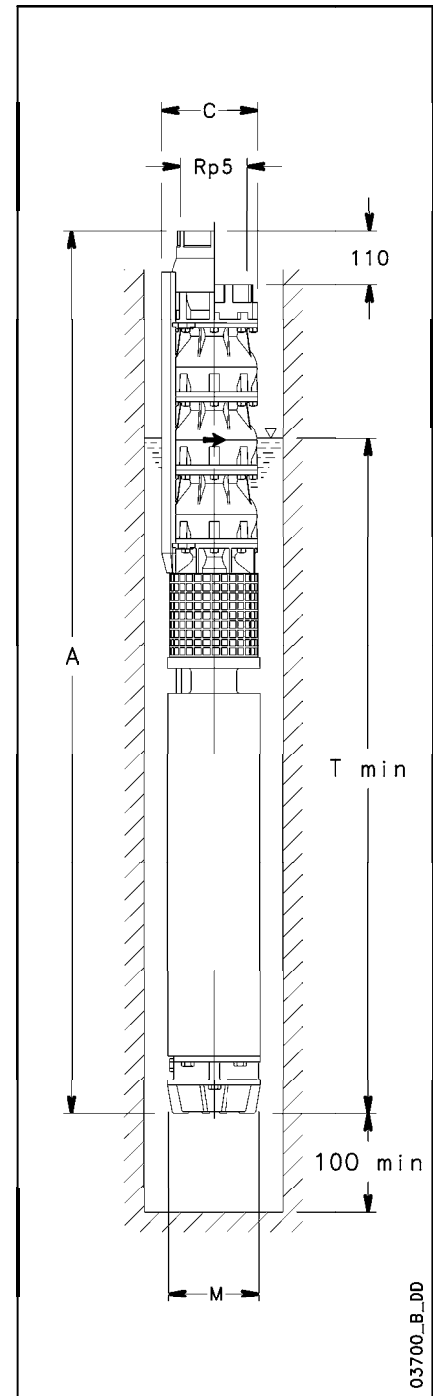
PUMP TYPE	MOTOR POWER kW	Q = DELIVERY						
		l/min	0	250	700	1167	1500	1750
		m <sup>3</sup> /h	0	15	42	70	90	105
H = TOTAL HEAD METRES COLUMN OF WATER								
Z875 01	5,5	27,3	26,1	24	21,2	16,8	12,7	
Z875 02/2A	7,5	41,1	39,2	36,3	28,9	19,7	10,7	
Z875 02/1A	9,3	47,7	46	42	35,3	26,5	17,9	
Z875 02	11	53,9	51,5	47,4	41,7	32,8	24,6	
Z875 03/3A	11	61,2	58,4	54,1	42,9	29	15,6	
Z875 03/2A	13	68,7	65,6	60,7	50,3	36,8	23,7	
Z875 03/1A	15	74,8	71,5	65,9	56,2	43,1	30,4	
Z875 03	18,5	82	78,4	72,1	63,5	50,3	38,1	
Z875 04/2A	18,5	95,4	91,1	84,1	70,6	52,9	35,8	
Z875 04	22	109,3	104,5	96,2	84,7	67,1	50,8	
Z875 05/2A	26	125,1	119,6	110,4	94,1	72,3	50,9	
Z875 05	30	137,6	131,6	121,1	106,8	84,9	64,4	
Z875 06/2A	30	152,8	146,1	134,8	115,5	89,6	64	
Z875 06/1A	30	158,4	151	139,6	120,9	95,3	70,2	
Z875 06	37	166,8	159,6	147	132,3	103,8	79,2	

z875-2p50-en\_c\_th

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRO PUMP TYPE	DIMENSIONS (mm)				ELECTRO PUMP WEIGHT kg <sup>(3)</sup>
	A <sup>(4)</sup>	C <sup>(1)</sup>	M	Tmin <sup>(2)</sup>	
Z875 01-L6W	1190	200	144	1613	68,9
Z875 02/2A-L6W	1382	200	144	1653	82,2
Z875 02/1A-L6W	1412	200	144	1683	86,2
Z875 02-L6W	1452	200	144	1723	90,2
Z875 03/3A-L6W	1604	200	144	1723	99,4
Z875 03/2A-L6W	1644	200	144	1763	103,4
Z875 03/1A-L6W	1714	200	144	1833	111,4
Z875 03-L6W	1784	200	144	1903	119,4
Z875 04/2A-L6W	1936	200	144	1903	128,6
Z875 04-L6W	1976	200	144	1943	131,6
Z875 05/2A-L6W	2256	200	144	2071	149,9
Z875 05-L6W	2336	200	144	2151	157,9
Z875 06/2A-L6W	2488	200	144	2151	167,1
Z875 06/1A-L6W	2488	200	144	2151	167,1
Z875 06-L6W	2638	200	144	2301	181,1

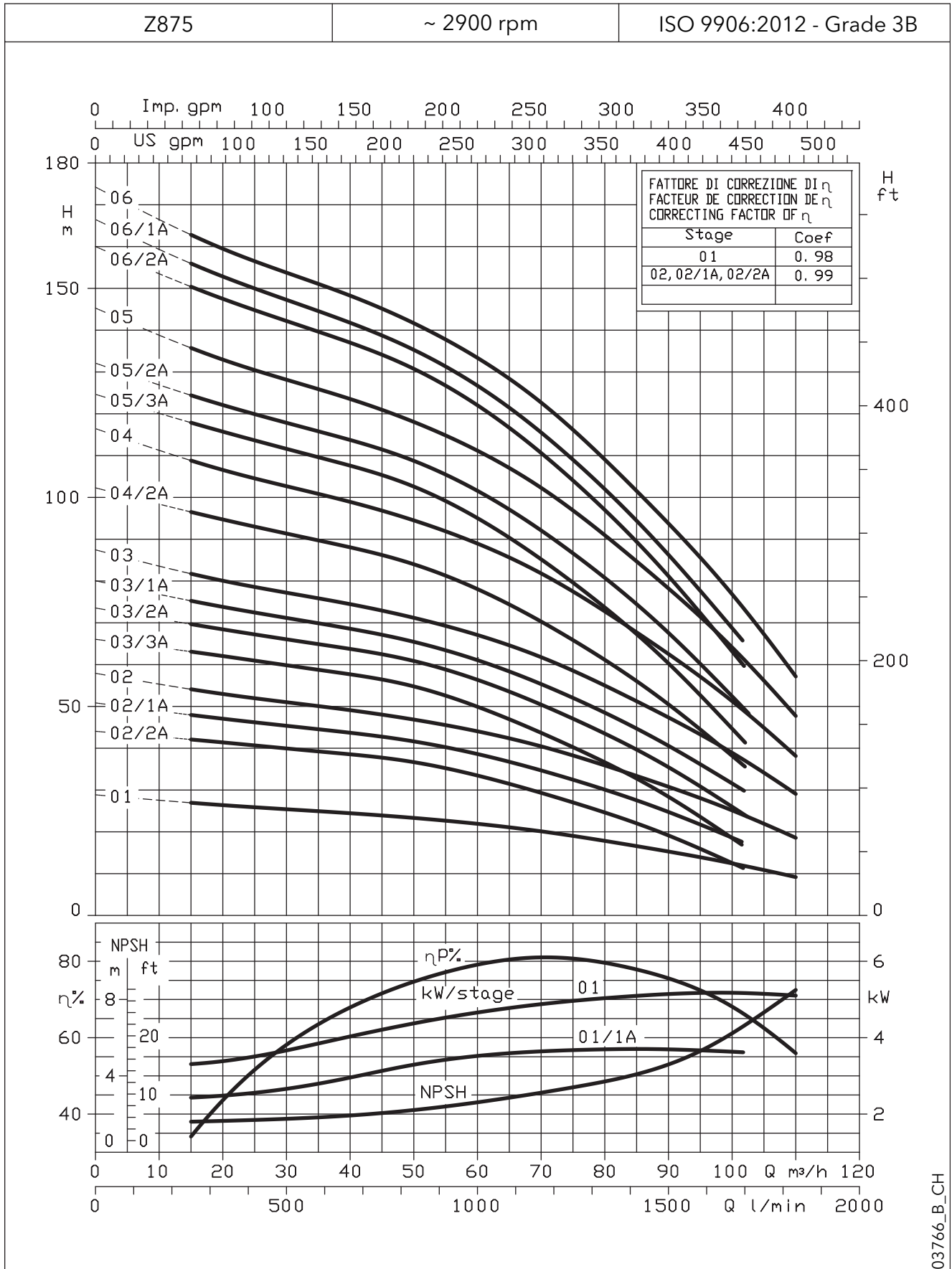
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- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 198 mm with L6W motor.
- 2) Tmin valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 110 mm, and reduce weight by 4 Kg.

### Z875 SERIES, 1 TO 6 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



03766\_B\_CH

The flow resistance of the non-return valve has been considered.  
 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z875 SERIES, 7 TO 18 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

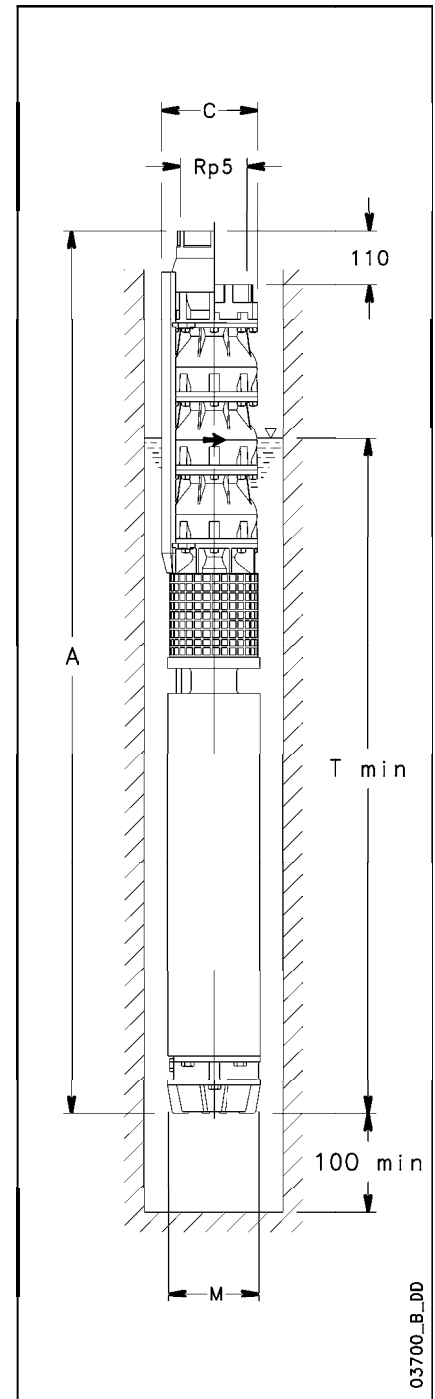
PUMP TYPE	MOTOR POWER kW	Q = DELIVERY								
		0	250	500	750	1000	1250	1500	1750	
		H = TOTAL HEAD METRES COLUMN OF WATER								
		m <sup>3</sup> /h	0	15	30	45	60	75	90	105
Z875 07/2A	37	180,7	171,6	165,4	158,3	147,5	130,9	107,4	76,6	
Z875 07	45	192,2	181,9	175,6	168,7	158	141,6	118,8	90,2	
Z875 08/2A	45	209,8	199,4	192,2	184	171,7	152,9	126,3	91,2	
Z875 08	45	221,9	210,1	202,9	195	182,8	164,1	138,1	105,5	
Z875 09/2A	45	233,7	222	213,8	204,6	190,8	169,6	139,6	100	
Z875 09/1A	52	244,6	232,4	223,8	214,4	200,8	180,3	150,9	111,7	
Z875 09	52	251,4	238,1	229,8	221	207,3	186,3	157,1	120,5	
Z875 10/2A	52	265,7	252,5	243,2	233	217,7	194,5	161,4	117,6	
Z875 10	55	277,4	262,7	253,6	243,7	228,5	205,1	172,6	131,9	
Z875 11/2A	55	289,6	275,1	264,9	253,6	236,8	211,2	174,8	126,5	
Z875 11	60	303,1	286,9	276,9	266,1	249,3	223,5	187,7	142,9	
Z875 12	67	330,7	313	302,1	290,3	272	243,8	204,8	155,9	
Z875 13	75	358,2	339,1	327,3	314,5	294,7	264,2	221,8	168,9	
Z875 14	83	385,8	365,1	352,5	338,7	317,3	284,5	238,9	181,8	
Z875 15	83	411,9	389,8	376,3	361,5	338,6	303,4	254,5	193,4	
Z875 16	93	439,3	415,8	401,4	385,6	361,2	323,6	271,5	206,3	
Z875 17	93	468,4	443,4	428	411,3	385,4	345,5	290,1	220,8	
Z875 18	110	496	469,5	453,2	435,5	408	365,8	307,2	233,8	

z875a-2p50-en\_c\_th

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRO PUMP TYPE	DIMENSIONS (mm)				ELECTRO PUMP TYPE	kg <sup>(3)</sup>
	A <sup>(4)</sup>	C <sup>(1)</sup>	M	Tmin <sup>(2)</sup>		
Z875 07/2A-L6W	2790	200	144	2301		190,3
Z875 07-L8W	2624	203,3	192	2135		262,3
Z875 08/2A-L8W	2776	203,3	192	2135		270,9
Z875 08-L8W	2776	203,3	192	2135		270,9
Z875 09/2A-L8W	2928	203,3	192	2135		280,1
Z875 09/1A-L8W	3008	203,3	192	2215		300,1
Z875 09-L8W	3008	203,3	192	2215		300,1
Z875 10/2A-L8W	3160	203,3	192	2215		309,4
Z875 10-L8W	3190	203,3	192	2245		315,4
Z875 11/2A-L8W	3342	203,3	192	2245		324,6
Z875 11-L8W	3392	203,3	192	2295		335,6
Z875 12-L8W	3624	203,3	192	2375		362,8
Z875 13-L8W	3856	203,3	192	2455		389
Z875 14-L8W	4078	203,3	192	2545		411,3
Z875 15-L8W	4230	203,3	192	2545		420,5
Z875 16-L8W	4512	203,3	192	2655		454,7
Z875 17-L8W	4664	203,3	192	2655		464
Z875 18-L10W	4884	235	236	2702		584,2

z875a-2p50-en\_d\_td

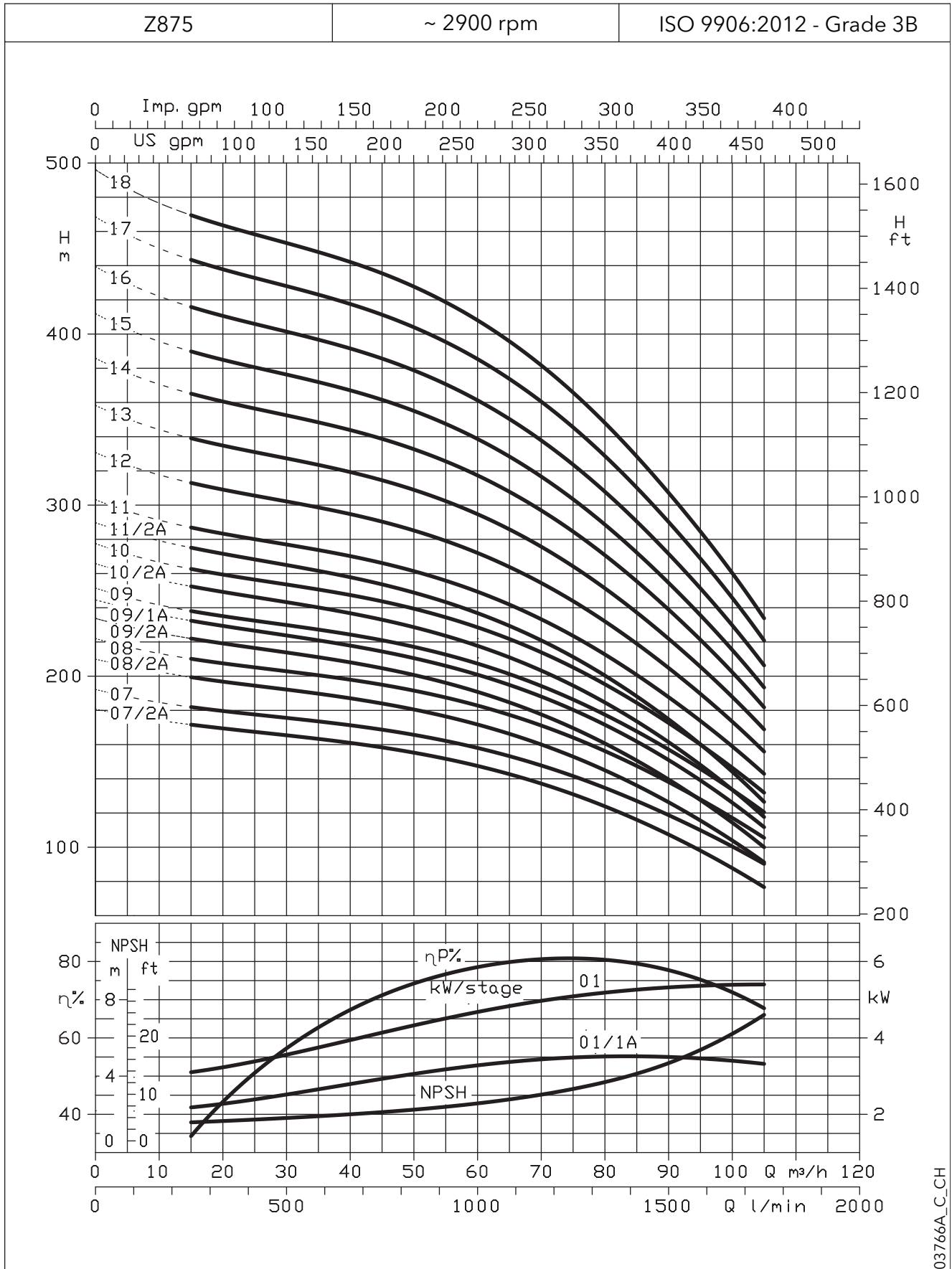


03700\_B\_DD

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 198 mm with L6W motor.  
C = 201,5 mm with L8W motor.
- 2) Tmin valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 110 mm, and reduce weight by 4 Kg.



### Z875 SERIES, 7 TO 18 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



03766A\_C\_CH

The flow resistance of the non-return valve has been considered.  
 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z895 SERIES, 1 TO 6 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

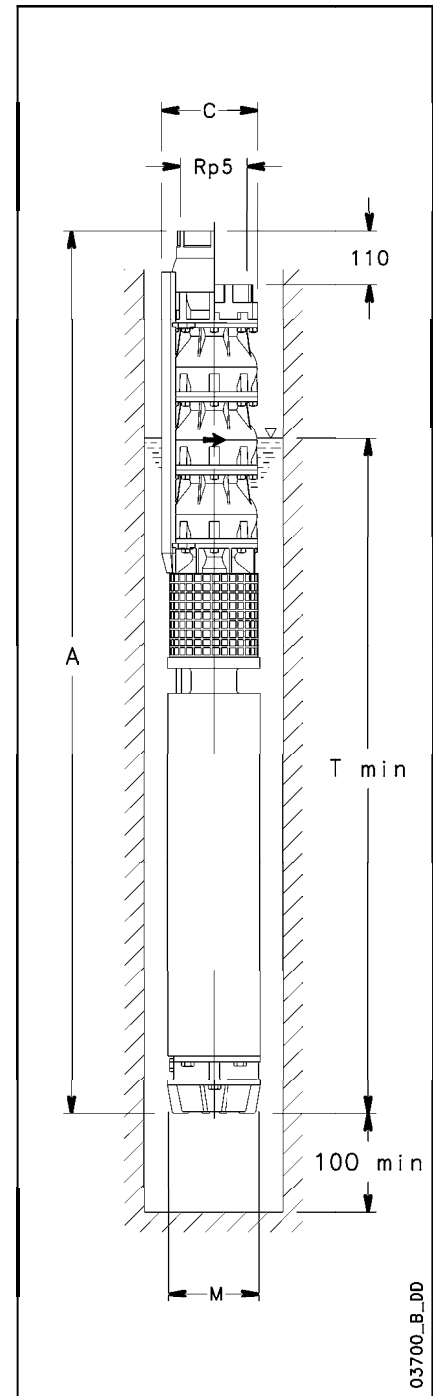
PUMP TYPE	MOTOR POWER kW	Q = DELIVERY						
		l/min	0	367	1000	1500	2150	2300
		m <sup>3</sup> /h	0	22	60	90	129	138
H = TOTAL HEAD METRES COLUMN OF WATER								
Z895 01	7,5	28,5	27,7	25,3	21,6	12,3	9,8	
Z895 02/2B	11	38,7	38,3	35,2	27,5			
Z895 02/2A	13	47,7	46,6	44	36,4	17,8		
Z895 02	15	57	55,4	50,7	43,2	24,6	19,5	
Z895 03/2B	18,5	67,2	66,1	60,8	49,4			
Z895 03/1A	22	81,1	79	73	61,8	34		
Z895 03	26	86	83,8	77,3	66,4	39	30,4	
Z895 04/2B	26	96	94,1	86,7	71,8			
Z895 04/2A	30	104,5	102	94,7	79,7	42,5		
Z895 04	30	113,8	110,7	101,4	86,5	49,3	39,2	
Z895 05/3A	37	128	125	116,4	97,5	50,8		
Z895 05	37	141,9	138	126,4	107,5	60,9	48,7	
Z895 06/3A	45	158,4	154,8	144,6	122,4	67,1		
Z895 06	45	172,6	168,1	154,9	132,8	77,7	60,5	

z895-2p50-en\_b\_th

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRO PUMP TYPE	DIMENSIONS (mm)				ELECTRO PUMP TYPE kg <sup>(3)</sup>
	A <sup>(4)</sup>	C <sup>(1)</sup>	M	Tmin <sup>(2)</sup>	
Z895 01-L6W	1230	200	144	1653	72,9
Z895 02/2B-L6W	1452	200	144	1723	90,2
Z895 02/2A-L6W	1492	200	144	1763	94,2
Z895 02-L6W	1562	200	144	1833	102,2
Z895 03/2B-L6W	1784	200	144	1903	119,4
Z895 03/1A-L6W	1824	200	144	1943	122,4
Z895 03-L6W	1952	200	144	2071	131,4
Z895 04/2B-L6W	2104	200	144	2071	140,6
Z895 04/2A-L6W	2184	200	144	2151	148,6
Z895 04-L6W	2184	200	144	2151	148,6
Z895 05/3A-L6W	2486	200	144	2301	171,9
Z895 05-L6W	2486	200	144	2301	171,9
Z895 06/3A-L8W	2472	203,3	192	2135	253,1
Z895 06-L8W	2472	203,3	192	2135	253,1

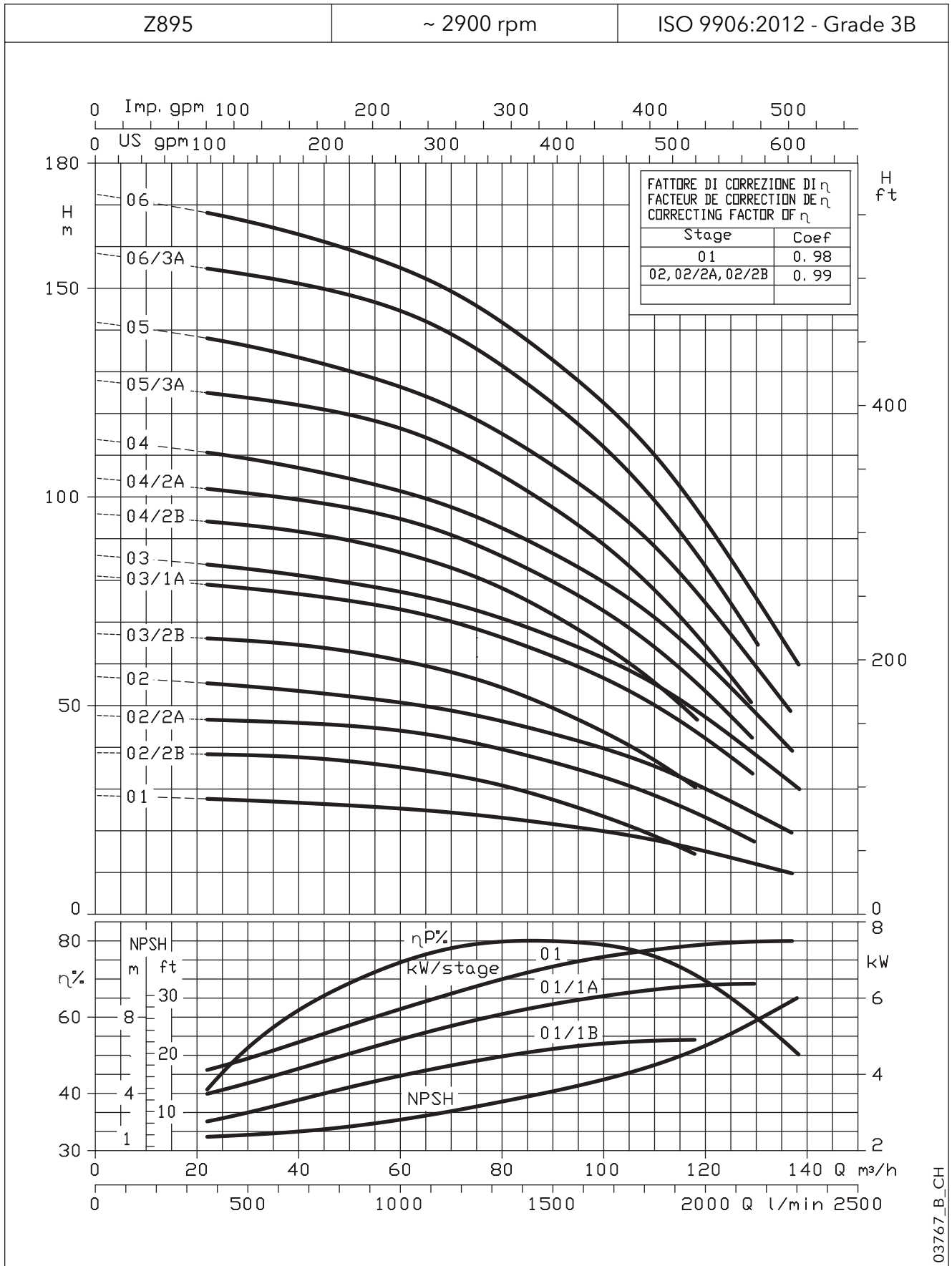
z895-2p50-en\_c\_td



03700\_B\_DD

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 198 mm with L6W motor.  
C = 201,5 mm with L8W motor.
- 2) Tmin valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 110 mm, and reduce weight by 4 Kg.

### Z895 SERIES, 1 TO 6 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



The flow resistance of the  $\Delta H_v$  non-return valve has been considered.  
 $\Delta H_v = 0,0000533 \cdot Q^2$  Flow resistance = **0,35 / 0,75 / 1,35 m** at **80 / 120 / 160 m³/h**  
 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z895 SERIES, 7 TO 18 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

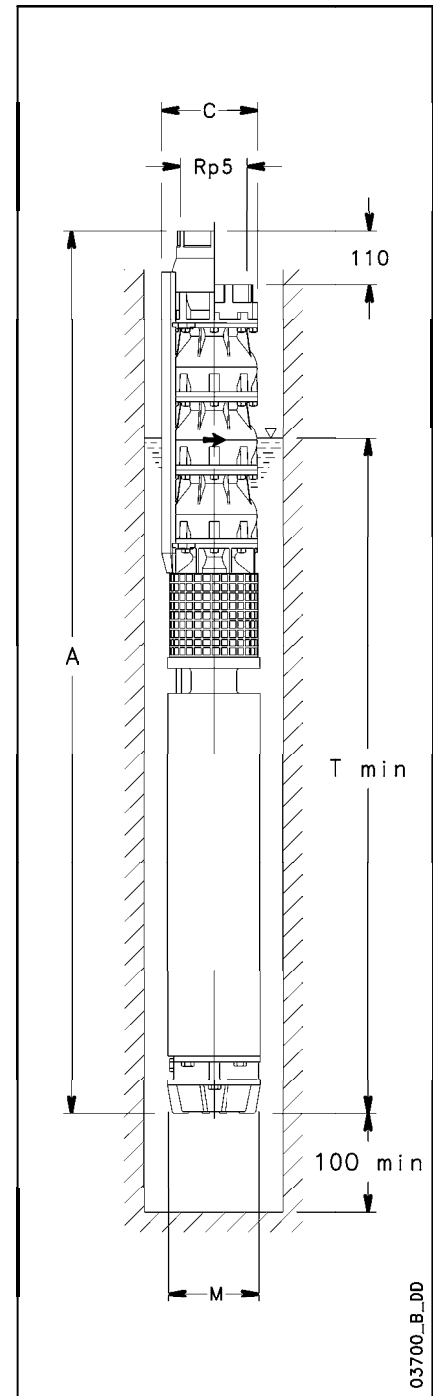
PUMP TYPE	MOTOR POWER kW	Q = DELIVERY						
		l/min	0	367	1000	1500	2150	2300
		m <sup>3</sup> /h	0	22	60	90	129	138
H = TOTAL HEAD METRES COLUMN OF WATER								
Z895 07/3A	52	186,5	182,1	169,6	144	79,8		
Z895 07	52	201,5	196,4	181,3	156,2	92,4	72,4	
Z895 08/3A	55	215,7	210,6	196	166,7	93,3		
Z895 08	60	229,9	223,9	206,3	177,2	104	81,1	
Z895 09/3A	67	244,4	238,6	221,9	188,9	106,2		
Z895 09	67	258,9	252,4	233	200,8	119	93,2	
Z895 10/3A	75	272,9	266,3	247,3	210,9	119,3		
Z895 10	75	287	279,6	257,6	221,5	130	101,4	
Z895 11	83	316,3	308,2	284,6	245,2	145	113,4	
Z895 12	93	346,3	337,6	311,5	268,1	158,8	124,4	
Z895 13	110	374,9	365,6	338,1	291,9	174	137,5	
Z895 14	110	403,1	393	363	312,8	185,4	145,2	
Z895 15	130	434,2	423,5	391,4	337,7	201,8	159	
Z895 16	130	462,6	451	416,2	358,6	213,2	169	
Z895 17	130	490,9	478,4	440,9	379,4	224,2	175,5	
Z895 18	150	520,2	507,1	468,5	404,2	241	189,3	

z895a-2p50-en\_c\_th

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRO PUMP TYPE	DIMENSIONS (mm)				ELECTRO PUMP TYPE kg <sup>(3)</sup>
	A <sup>(4)</sup>	C <sup>(1)</sup>	M	Tmin <sup>(2)</sup>	
Z895 07/3A-L8W	2704	203,3	192	2215	281,7
Z895 07-L8W	2704	203,3	192	2215	281,7
Z895 08/3A-L8W	2886	203,3	192	2245	296,9
Z895 08-L8W	2936	203,3	192	2295	307,9
Z895 09/3A-L8W	3168	203,3	192	2375	335,1
Z895 09-L8W	3168	203,3	192	2375	335,1
Z895 10/3A-L8W	3400	203,3	192	2455	361,4
Z895 10-L8W	3400	203,3	192	2455	361,4
Z895 11-L8W	3642	203,3	192	2545	383,6
Z895 12-L8W	3904	203,3	192	2655	417,8
Z895 13-L10W	4124	236	236	2702	538
Z895 14-L10W	4276	236	236	2702	547,3
Z895 15-L10W	4578	236	236	2852	603,5
Z895 16-L10W	4730	236	236	2852	612,7
Z895 17-L10W	4882	236	236	2852	622
Z895 18-L10W	5164	236	236	2982	670,2

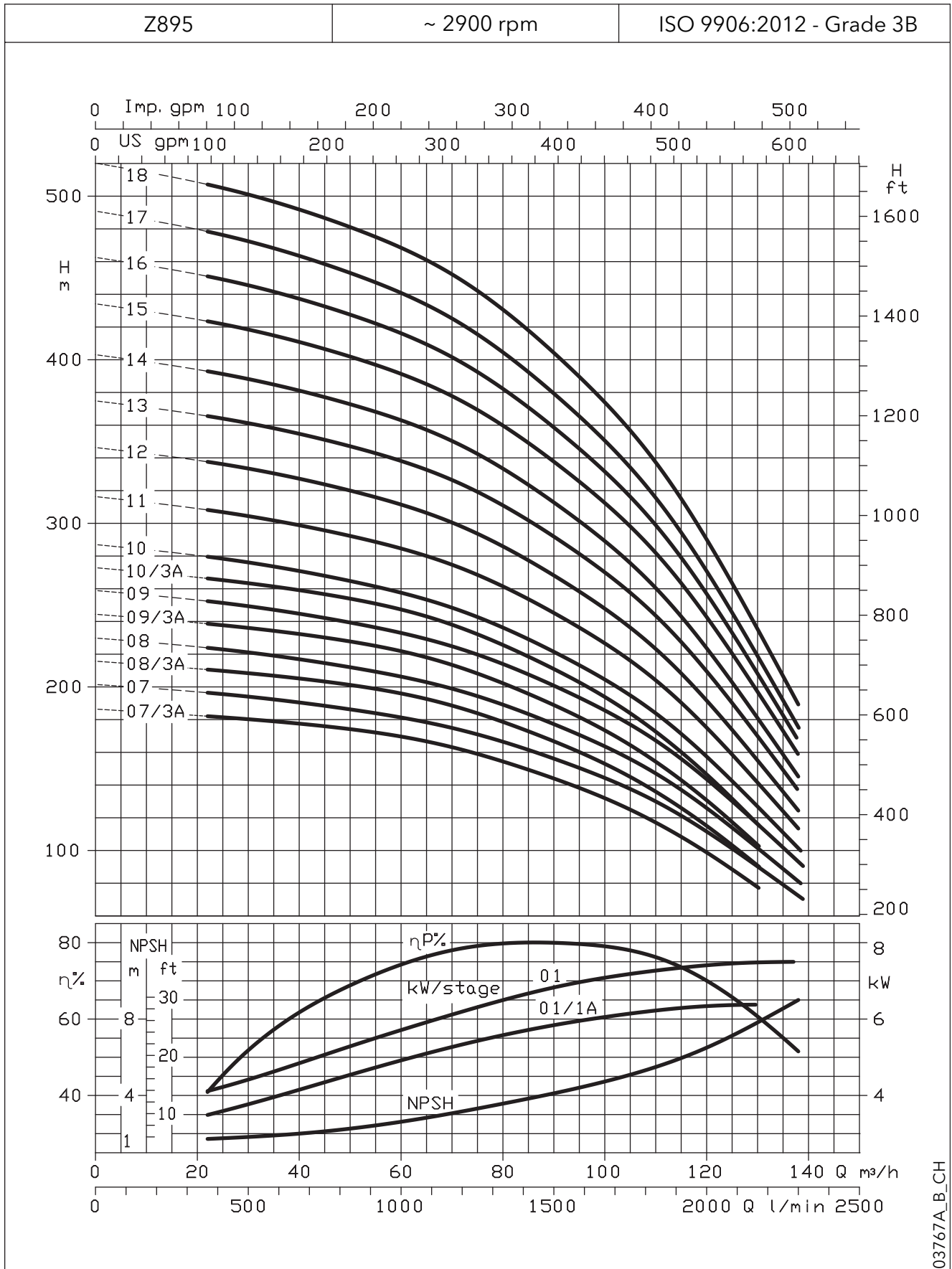
z895a-2p50-en\_d\_td



03700\_B\_DD

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 201,5 mm with L8W motor.  
C = 236 mm with L10W motor.
- 2) Tmin valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 110 mm, and reduce weight by 4 Kg.

### Z895 SERIES, 7 TO 18 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



03767A\_B\_CH

The flow resistance of the ΔHv non-return valve has been considered.  
 $\Delta H_v = 0,0000533 \cdot Q^2$  Flow resistance = 0,2 / 0,45 / 0,75 m at 60 / 90 / 120 m³/h  
 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z8125 SERIES, 1 TO 6 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

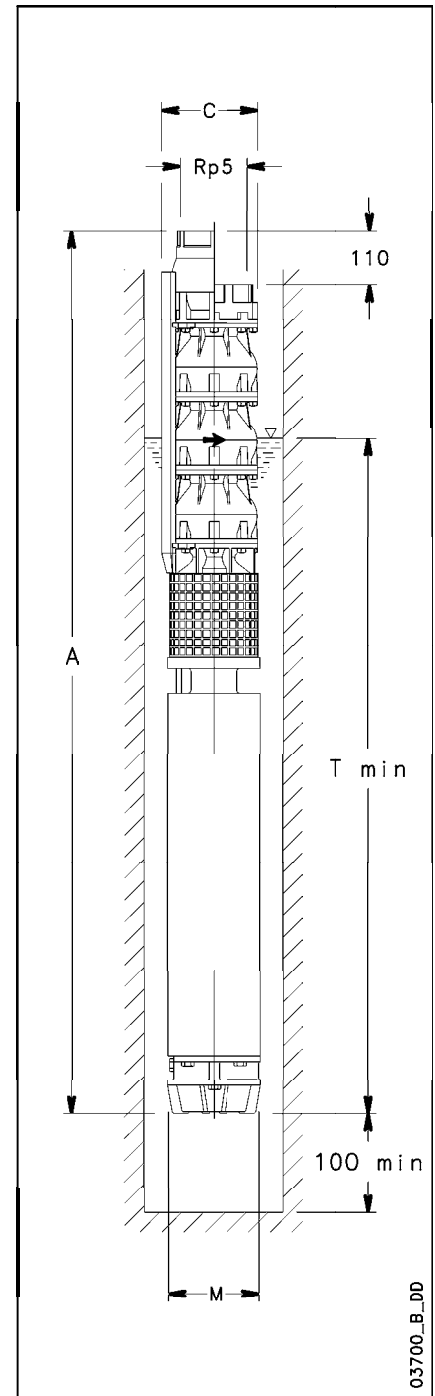
PUMP TYPE	MOTOR POWER kW	Q = DELIVERY						
		l/min	0	500	1333	2083	2800	3000
		m <sup>3</sup> /h	0	30	80	125	168	180
H = TOTAL HEAD METRES COLUMN OF WATER								
Z8125 01	7,5	27,1	24,7	21	17,1	9,4	6,9	
Z8125 02/2B	11	41,9	38,8	31,8	22,3			
Z8125 02/2A	13	48,3	44,6	37,5	28,9	13		
Z8125 02	15	54,3	49,5	42	34,1	18,8	13,7	
Z8125 03/3A	18,5	71,9	66,2	55,5	42,6	19,3		
Z8125 03	22	81,7	74,6	63,4	51,5	28,7	20,7	
Z8125 04/2B	26	97	89,2	74,8	57,5			
Z8125 04/2A	30	102,6	94,1	79,5	63,1	32,9		
Z8125 04	30	108,5	99	84,1	68,3	37,8	27,5	
Z8125 05/3A	37	126,4	116	97,9	77,1	39,3		
Z8125 05	37	135,2	123,4	104,7	84,8	46,6	34,2	
Z8125 06/3A	45	156,4	143,5	121,7	97,1	50,2		
Z8125 06	45	165,5	151,1	128,8	105	60	41,9	

z8125-2p50-en\_b\_th

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRO PUMP TYPE	DIMENSIONS (mm)				ELECTRO PUMP WEIGHT kg <sup>(3)</sup>
	A <sup>(4)</sup>	C <sup>(1)</sup>	M	Tmin <sup>(2)</sup>	
Z8125 01-L6W	1230	200	144	1653	72,9
Z8125 02/2B-L6W	1452	200	144	1723	90,2
Z8125 02/2A-L6W	1492	200	144	1763	94,2
Z8125 02-L6W	1562	200	144	1833	102,2
Z8125 03/3A-L6W	1784	200	144	1903	119,4
Z8125 03-L6W	1824	200	144	1943	122,4
Z8125 04/2B-L6W	2104	200	144	2071	140,6
Z8125 04/2A-L6W	2184	200	144	2151	148,6
Z8125 04-L6W	2184	200	144	2151	148,6
Z8125 05/3A-L6W	2486	200	144	2301	171,9
Z8125 05-L6W	2486	200	144	2301	171,9
Z8125 06/3A-L8W	2472	203,3	192	2135	253,1
Z8125 06-L8W	2472	203,3	192	2135	253,1

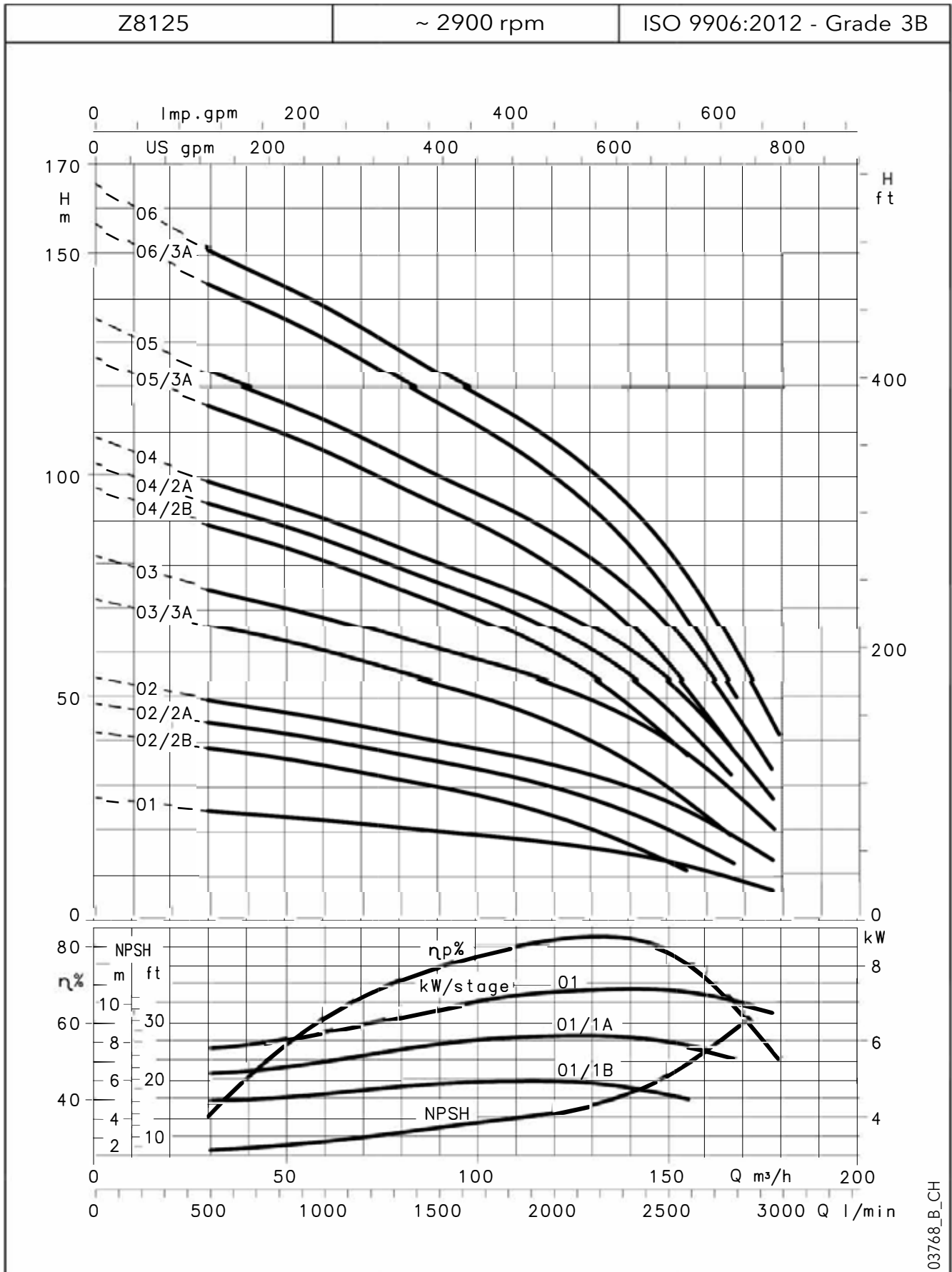
z8125-2p50-en\_c\_td



03700\_B\_DD

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 201,5 mm with L8W motor.  
C = 236 mm with L10W motor.
- 2) Tmin valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 110 mm, and reduce weight by 4 Kg.

### Z8125 SERIES, 1 TO 6 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



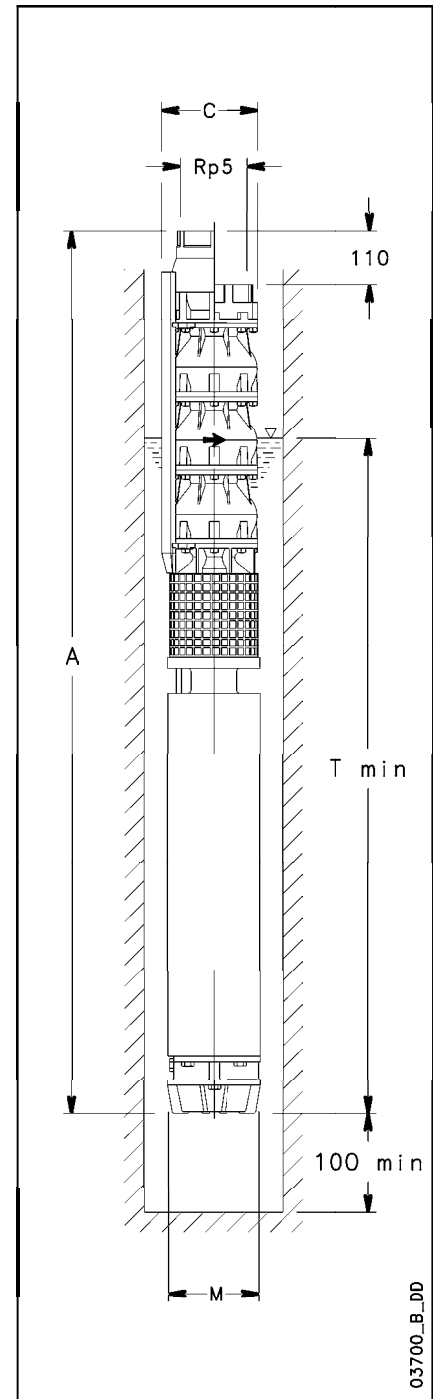
03768\_B\_CH

The flow resistance of the ΔHv non-return valve has been considered.  
 $\Delta H_v = 0,0000533 \cdot Q^2$  Flow resistance = 0,35 / 0,75 / 1,35 m at 80 / 120 / 160 m³/h  
 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z8125 SERIES, 7 TO 18 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	MOTOR POWER kW	Q = DELIVERY						
		$V_{min}$	0	500	1333	2083	2800	3000
		$m^3/h$	0	30	80	125	168	180
H = TOTAL HEAD METRES COLUMN OF WATER								
Z8125 07/3A	52	183,3	168	142,6	114,3	60,2		
Z8125 07	52	192,3	175,6	149,8	122,5	69,8	48,8	
Z8125 08/3A	55	210,9	193,2	164,1	131,8	70,3		
Z8125 08	60	220,5	201,3	171,8	140,4	80,3	55,9	
Z8125 09/3A	67	239	218,9	186	149,8	80,6		
Z8125 09	67	248,1	226,5	193,2	157,8	90,3	62,9	
Z8125 10/3A	75	266,2	243,7	207,3	167,4	90,7		
Z8125 10	75	275,3	251,4	214,6	175,4	100,3	69,9	
Z8125 11	83	304,2	277,8	237,4	194,4	112,2	76,8	
Z8125 12	93	332,7	303,9	259,6	212,5	123	84,5	
Z8125 13	93	361,2	329,9	282,3	231,6	134,9	93,1	
Z8125 14	110	387,9	354,2	302,8	248	143,5	98,5	
Z8125 15	110	414,3	378,3	323	264,2	151,9	104	
Z8125 16	130	444,5	406	347	284,4	165,3	113,9	
Z8125 17	130	470,9	430,1	367,3	300,6	173,7	119,5	
Z8125 18	150	500,4	457,1	391	320,8	186,8	128,9	

z8125a-2p50-en\_b\_th



03700\_B\_DD

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

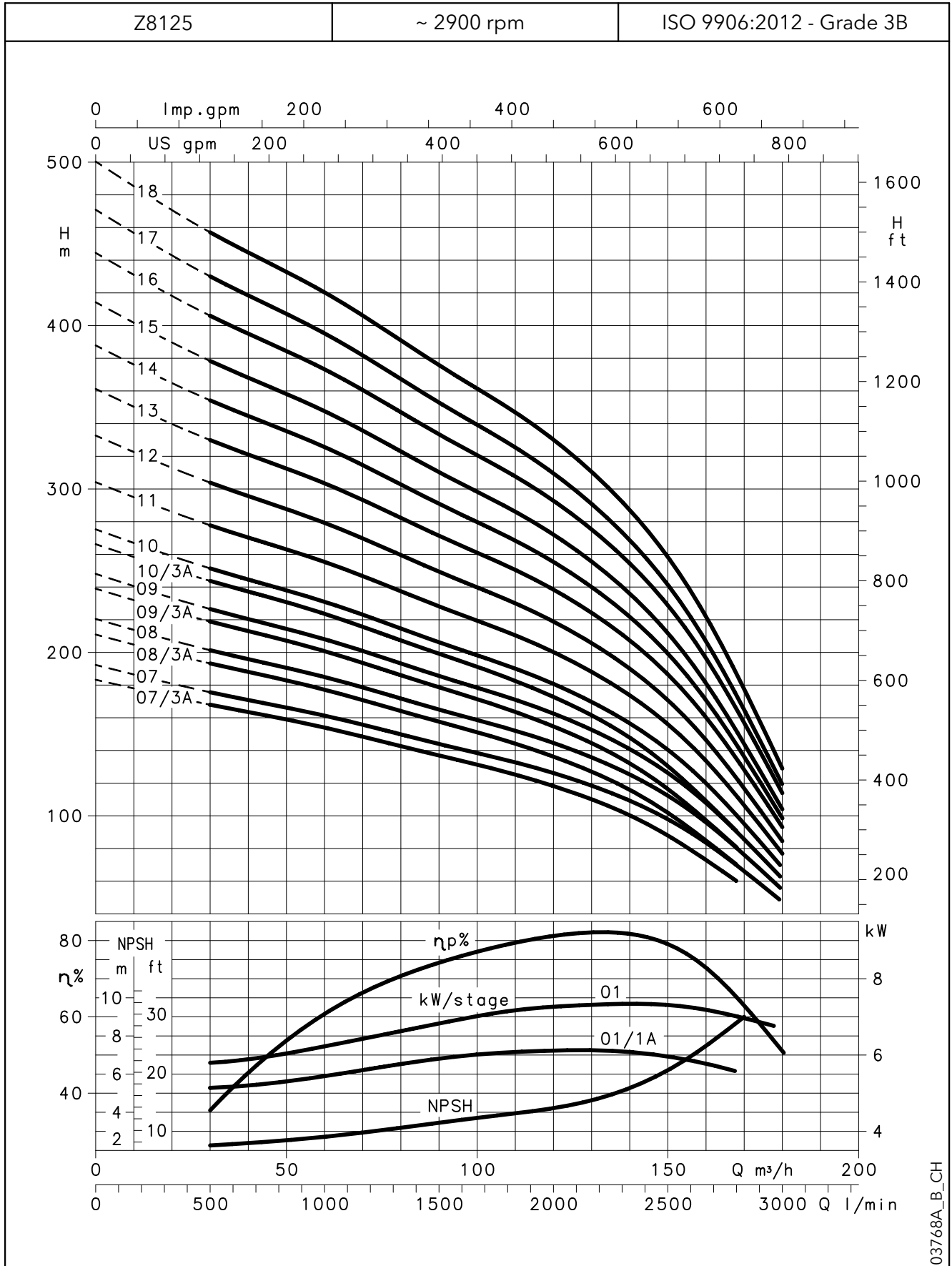
ELECTRO PUMP TYPE	DIMENSIONS (mm)				ELECTRO PUMP WEIGHT kg <sup>(3)</sup>
	A <sup>(4)</sup>	C <sup>(1)</sup>	M	Tmin <sup>(2)</sup>	
Z8125 07/3A-L8W	2704	203,3	192	2215	281,7
Z8125 07-L8W	2704	203,3	192	2215	81,72
Z8125 08/3A-L8W	2886	203,3	192	2245	296,9
Z8125 08-L8W	2936	203,3	192	2295	307,9
Z8125 09/3A-L8W	3188	203,3	192	2375	335,1
Z8125 09-L8W	3188	203,3	192	2375	335,1
Z8125 10/3A-L8W	3400	203,3	192	2455	361,4
Z8125 10-L8W	3400	203,3	192	2455	361,4
Z8125 11-L8W	3662	203,3	192	2545	383,6
Z8125 12-L8W	3934	203,3	192	2685	417,8
Z8125 13-L8W	4056	203,3	192	2655	427
Z8125 14-L10W	4276	236	236	2702	547,3
Z8125 15-L10W	4428	236	236	2702	556,5
Z8125 16-L10W	4730	236	236	2852	612,7
Z8125 17-L10W	4882	236	236	2852	622
Z8125 18-L10W	5164	236	236	2982	670,2

z8125a-2p50-en\_c\_td

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 201,5 mm with L8W motor.  
C = 236 mm with L10W motor.
- 2) T min valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 110 mm, and reduce weight by 4 Kg.



### Z8125 SERIES, 7 TO 18 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



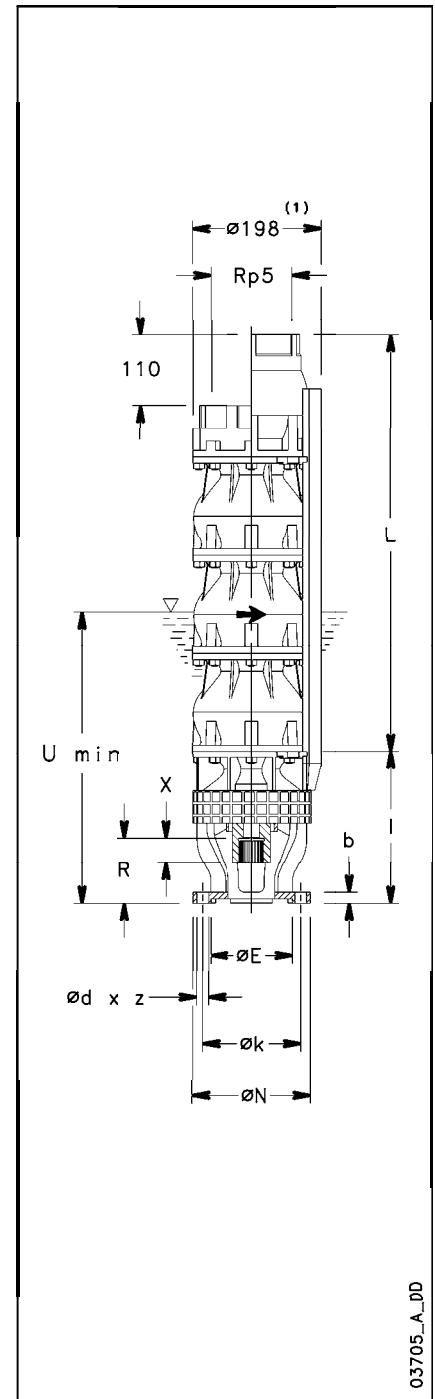
03768A\_B\_CH

The flow resistance of the ΔHv non-return valve has been considered.  
 $\Delta H_v = 0,0000533 \cdot Q^2$  Flow resistance = **0,35 / 0,75 / 1,35 m** at **80 / 120 / 160 m³/h**  
 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z855 SERIES PUMPS DIMENSIONS AND WEIGHTS

PUMP TYPE	MAX POWER ABSORBED BY PUMP at 2900 min <sup>-1</sup> kW	DIMENSIONS (mm)			WEIGHT kg <sup>(3)</sup>
		L <sup>(3)</sup>	l	U <sub>min</sub> <sup>(2)</sup>	
Z855 01-6	4,6	325	235	1000	26,6
Z855 02/2A-6	6,4	460	235	1000	35,2
Z855 02/1A-6	7,7	460	235	1000	35,2
Z855 02-6	9,0	460	235	1000	35,2
Z855 03/2A-6	10,8	595	235	1000	43,9
Z855 03-6	13,3	595	235	1000	43,9
Z855 04/2A-6	15,1	730	235	1000	52,5
Z855 04-6	17,6	730	235	1000	52,5
Z855 05/3A-6	18,3	865	235	1000	61,2
Z855 05/2A-6	20,8	865	235	1000	61,2
Z855 05-6	22,0	865	235	1000	61,2
Z855 06/2A-6	23,9	1000	235	1000	69,8
Z855 06-6	26,4	1000	235	1000	69,8
Z855 07/2A-6	28,3	1135	235	1000	78,5
Z855 07-6	30,8	1135	235	1000	78,5
Z855 08/2A-6	32,7	1270	235	1000	87,1
Z855 08-6	35,2	1270	235	1000	87,1
Z855 09/2A-6	37,1	1405	235	1000	95,8
Z855 09-8	39,6	1405	235	1000	95,1
Z855 10/2A-8	41,5	1540	235	1000	103,8
Z855 10-8	44,0	1540	235	1000	103,8
Z855 11/2A-8	45,9	1675	235	1000	112,4
Z855 11-8	48,4	1675	235	1000	112,4
Z855 12-8	52,8	1810	235	1000	121,1
Z855 13-8	57,2	1945	235	1000	129,7
Z855 14-8	61,6	2080	235	1000	138,4
Z855 15-8	66,0	2215	235	1000	147
Z855 16-8	70,4	2350	235	1000	155,7
Z855 17-8	74,8	2485	235	1000	164,3
Z855 18-8	79,2	2620	235	1000	173
Z855 19-8	83,6	2755	235	1000	181,6

z855p-2p50-en\_a\_td



## PUMPS MOTOR COUPLING

MOTOR	DIMENSIONS (mm)							
	N	k	d	z	b	E <sup>H7</sup>	R	X
6" (NEMA)	182	111	13,5	4	17	76,16	73	24
8" (NEMA)	182	152,4	18	4	17	127	101,3	40
6" and 8" coupling according to NEMA standards								

z8-mtcn-2p50-en\_a\_td

- 1) Max pump diameter with 1 motor cable included.
- 2) U<sub>min</sub> valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) For pumps without non-return valve, reduce dimension L by 110 mm, and reduce weight by 4 Kg.

## Z875 SERIES PUMPS DIMENSIONS AND WEIGHTS

PUMP TYPE	MAX POWER ABSORBED BY PUMP a 2900 min <sup>-1</sup> kW	DIMENSIONS (mm)			WEIGHT kg <sup>(3)</sup>
		L <sup>(3)</sup>	l	Umin <sup>(2)</sup>	
Z875 01-6	5,6	342	235	1000	26,9
Z875 02/2A-6	7,4	494	235	1000	36,2
Z875 02/1A-6	9,2	494	235	1000	36,2
Z875 02-6	11,1	494	235	1000	36,2
Z875 03/3A-6	11,1	646	235	1000	45,4
Z875 03/2A-6	12,9	646	235	1000	45,4
Z875 03/1A-6	14,7	646	235	1000	45,4
Z875 03-6	16,7	646	235	1000	45,4
Z875 04/2A-6	18,3	798	235	1000	54,6
Z875 04-6	22,3	798	235	1000	54,6
Z875 05/2A-6	23,8	950	235	1000	63,9
Z875 05-6	27,9	950	235	1000	63,9
Z875 06/2A-6	29,3	1102	235	1000	73,1
Z875 06/1A-6	31,3	1102	235	1000	73,1
Z875 06-6	33,3	1102	235	1000	73,1
Z875 07/2A-6	34,8	1254	235	1000	82,3
Z875 07-8	39,0	1254	235	1000	82,3
Z875 08/2A-8	40,4	1406	235	1000	90,9
Z875 08-8	44,6	1406	235	1000	90,9
Z875 09/2A-8	45,9	1558	235	1000	100,1
Z875 09/1A-8	47,9	1558	235	1000	100,1
Z875 9-8	50,1	1558	235	1000	100,1
Z875 10/2A-8	51,5	1710	235	1000	109,4
Z875 10-8	55,7	1710	235	1000	109,4
Z875 11/2A-8	57,0	1862	235	1000	118,6
Z875 11-8	61,3	1862	235	1000	118,6
Z875 12-8	66,8	2014	235	1000	127,8
Z875 13-8	72,4	2166	235	1000	137
Z875 14-8	78,0	2318	235	1000	146,3
Z875 15-8	83,6	2470	235	1000	155,5
Z875 16-8	89,1	2622	235	1000	164,7
Z875 17-8	94,7	2774	235	1000	174
Z875 18-10	100,3	2926	256	1000	183,2

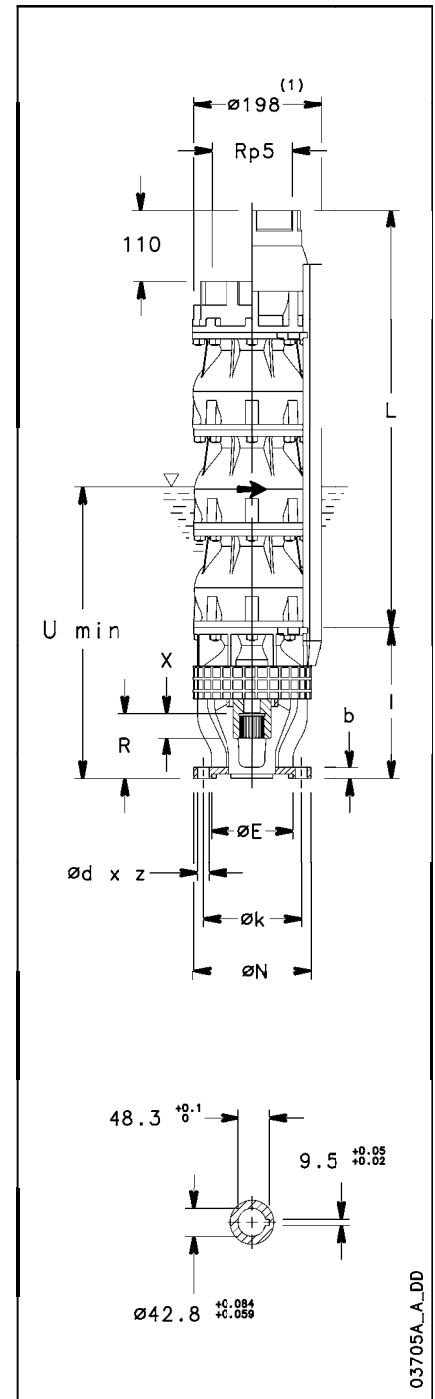
z875p-2p50-en\_c\_td

## PUMPS MOTOR COUPLING

MOTOR	DIMENSIONS (mm)							
	N	k	d	z	b	E <sup>H7</sup>	R	X
6" (NEMA)	182	111	13,5	4	17	76,16	73	24
8" (NEMA)	182	152,4	18	4	17	127	101,3	40
10"	232	190,5	M16	4	21	127	101,3	84

6" and 8" coupling according to NEMA standards

z8a-mtcn-2p50-en\_a\_td



- 1) Max pump diameter with 1 motor cable included.
- 2) U min valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) For pumps without non-return valve, reduce dimension L by 110 mm, and reduce weight by 4 Kg.

## Z895 SERIES PUMPS DIMENSIONS AND WEIGHTS

PUMP TYPE	MAX POWER ABSORBED BY PUMP at 2900 min <sup>-1</sup> kW	DIMENSIONS (mm)			WEIGHT kg <sup>(3)</sup>
		L <sup>(3)</sup>	l	U <sub>min</sub> <sup>(2)</sup>	
Z895 01-6	7,7	342	235	1000	26,9
Z895 02/2B-6	10,0	494	235	1000	36,2
Z895 02/2A-6	12,8	494	235	1000	36,2
Z895 02-6	15,2	494	235	1000	36,2
Z895 03/2B-6	17,4	646	235	1000	45,4
Z895 03/1A-6	21,4	646	235	1000	45,4
Z895 03-6	22,5	646	235	1000	45,4
Z895 04/2B-6	24,6	798	235	1000	54,6
Z895 04/2A-6	27,4	798	235	1000	54,6
Z895 04-6	29,8	798	235	1000	54,6
Z895 05/3A-6	33,7	950	235	1000	63,9
Z895 05-6	37,2	950	235	1000	63,9
Z895 06/3A-8	41,1	1102	235	1000	73,1
Z895 06-8	44,6	1102	235	1000	73,1
Z895 07/3A-8	48,6	1254	235	1000	81,7
Z895 07-8	52,1	1254	235	1000	81,7
Z895 08/3A-8	56,0	1406	235	1000	90,9
Z895 08-8	59,5	1406	235	1000	90,9
Z895 09/3A-8	63,5	1558	235	1000	100,1
Z895 09-8	67,0	1558	235	1000	100,1
Z895 10/3A-8	70,9	1710	235	1000	109,4
Z895 10-8	74,4	1710	235	1000	109,4
Z895 11-8	81,8	1862	235	1000	118,6
Z895 12-8	89,3	2014	235	1000	127,8
Z895 1310	96,7	2166	256	1000	137
Z895 14-10	104,2	2318	256	1000	146,3
Z895 15-10	111,6	2470	256	1000	155,5
Z895 16-10	119,0	2622	256	1000	164,7
Z895 17-10	126,5	2774	256	1000	174
Z895 18-10	133,9	2926	256	1000	183,2

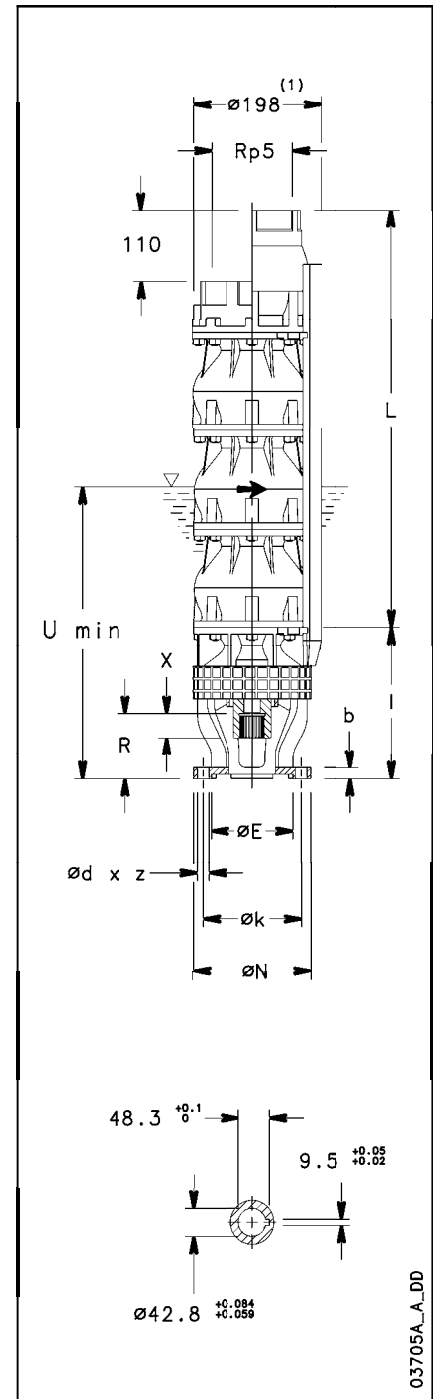
z895p-2p50-en\_b\_td

## PUMPS MOTOR COUPLING

MOTOR	DIMENSIONS (mm)							
	N	k	d	z	b	E <sup>H7</sup>	R	X
6" (NEMA)	182	111	13,5	4	17	76,16	73	24
8" (NEMA)	182	152,4	18	4	17	127	101,3	40
10"	232	190,5	M16	4	21	127	101,3	84

6" and 8" coupling according to NEMA standards

z8a-mtcn-2p50-en\_a\_td



- 1) Max pump diameter with 1 motor cable included.
- 2) U<sub>min</sub> valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) For pumps without non-return valve, reduce dimension L by 110 mm, and reduce weight by 4 Kg.

## Z8125 SERIES PUMPS DIMENSIONS AND WEIGHTS

PUMP TYPE	MAX POWER ABSORBED BY PUMP at 2900 min <sup>-1</sup> kW	DIMENSIONS (mm)			WEIGHT kg <sup>(3)</sup>
		L <sup>(3)</sup>	l	U <sub>min</sub> <sup>(2)</sup>	
Z8125 01-6	7,5	342	235	1000	26,9
Z8125 02/2B-6	10,0	494	235	1000	36,2
Z8125 02/2A-6	12,2	494	235	1000	36,2
Z8125 02-6	14,8	494	235	1000	36,2
Z8125 03/3A-6	18,1	646	235	1000	45,4
Z8125 03-6	22,0	646	235	1000	45,4
Z8125 04/2B-6	24,3	798	235	1000	54,6
Z8125 04/2A-6	26,5	798	235	1000	54,6
Z8125 04-6	29,0	798	235	1000	54,6
Z8125 05/3A-6	32,5	950	235	1000	63,9
Z8125 05-6	36,3	950	235	1000	63,9
Z8125 06/3A-8	39,7	1102	235	1000	73,1
Z8125 06-8	43,5	1102	235	1000	73,1
Z8125 07/3A-8	47,0	1254	235	1000	81,7
Z8125 07-8	50,8	1254	235	1000	81,7
Z8125 08/3A-8	54,2	1406	235	1000	90,9
Z8125 08-8	58,0	1406	235	1000	90,9
Z8125 09/3A-8	61,5	1558	235	1000	100,1
Z8125 09-8	65,3	1558	235	1000	100,1
Z8125 10/3A-8	68,7	1710	235	1000	109,4
Z8125 10-8	72,5	1710	235	1000	109,4
Z8125 11-8	79,8	1862	235	1000	118,6
Z8125 12-8	87,0	2014	235	1000	127,8
Z8125 13-8	94,3	2166	235	1000	137
Z8125 14-10	101,5	2318	256	1000	146,3
Z8125 15-10	108,8	2470	256	1000	155,5
Z8125 16-10	116,0	2622	256	1000	164,7
Z8125 17-10	123,3	2774	256	1000	174
Z8125 18-10	130,5	2926	256	1000	183,2

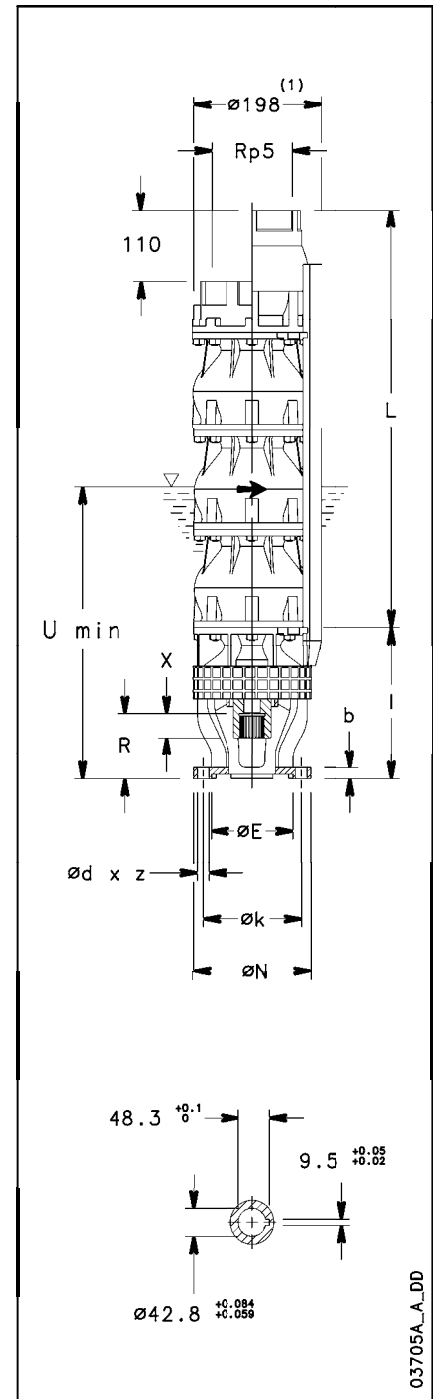
z8125p-2p50-en\_c\_td

## PUMPS MOTOR COUPLING

MOTOR	DIMENSIONS (mm)							
	N	k	d	z	b	E <sup>H7</sup>	R	X
6" (NEMA)	182	111	13,5	4	17	76,16	73	24
8" (NEMA)	182	152,4	18	4	17	127	101,3	40
10"	232	190,5	M16	4	21	127	101,3	84

6" and 8" coupling according to NEMA standards

z8a-mtcn-2p50-en\_a\_td



- 1) Max pump diameter with 1 motor cable included.
- 2) U<sub>min</sub> valid only for max flow speed of 4,2 m/s.  
For higher speeds please contact our sales network.
- 3) For pumps without non-return valve, reduce dimension L by 110 mm, and reduce weight by 4 Kg.



## 10" Submersible Electric Pumps

### Z10150 Z10220 Z10275 Series

#### MARKET SECTORS

AGRICULTURE, INDUSTRY, MUNICIPAL.

#### APPLICATIONS

- Water supply from deep wells.
- Pressure boosting and water distribution
- Supply of surge tanks and reservoirs.
- Firefighting and washing systems.
- Water table level control.
- Irrigation.
- Mines.



#### SPECIFICATIONS

- **Delivery:** up to 350 m<sup>3</sup>/h.
- **Head:** up to 545 m.
- **Maximum pump overall diameter (2 cable covers included):** 271 mm for all versions.
- **Maximum electric pump immersion depth:** 350 m.
- **Maximum permissible quantity of suspended sand:** 100 g/m<sup>3</sup>.
- **Standard delivery outlet:** Rp 6" (according to EN 10226) for all versions.
- **Motor power:** from 11 to 300 kW
- **Construction materials available:** AISI304 and AISI316 stainless steel (Z10), DUPLEX stainless steel (ZR10).
- **Horizontal installation possible (it is recommended to have an incline of at least 3° with the motor on the lowest position).**

#### CONSTRUCTION FEATURES

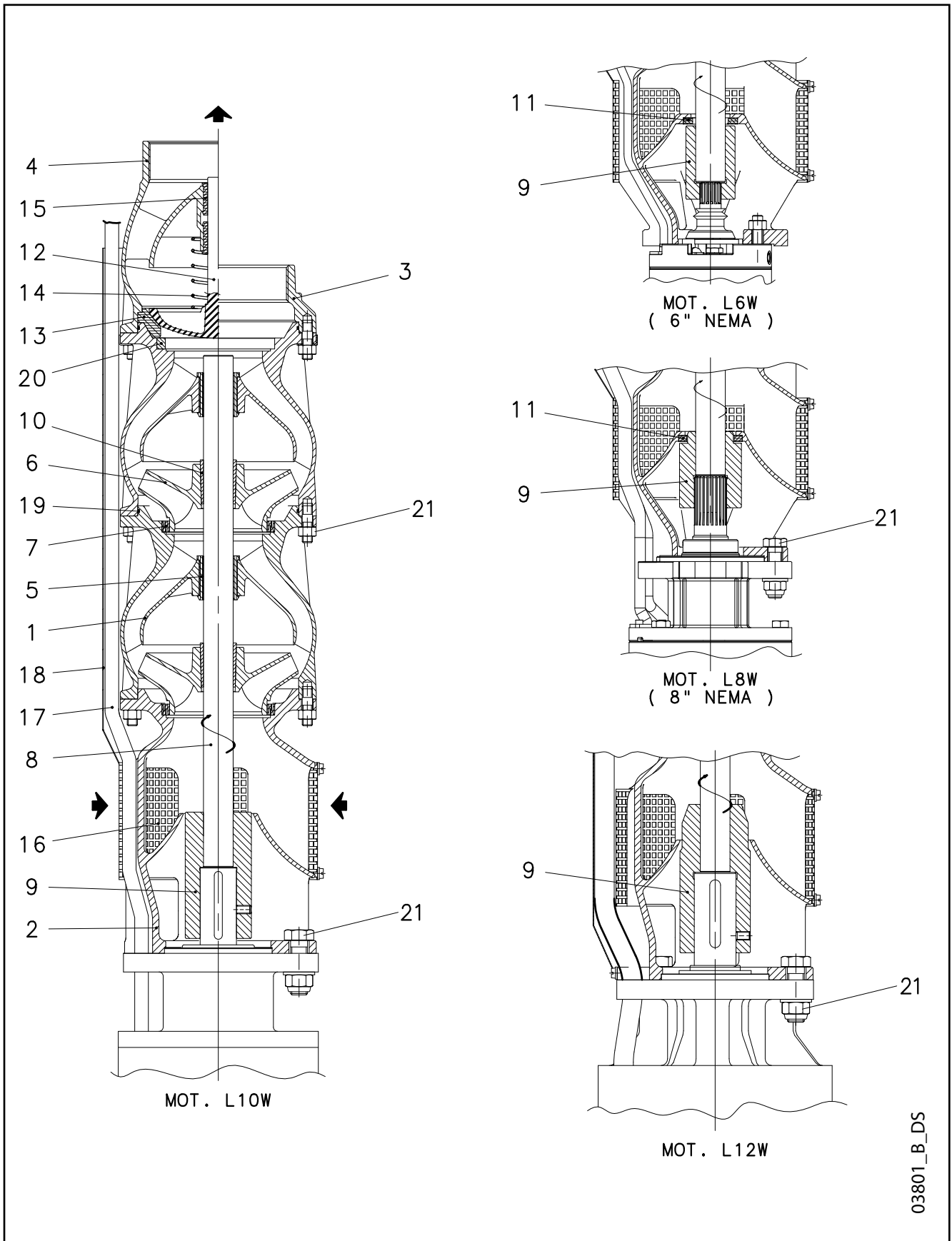
- Electric pumps sturdy and lightweight, easy maintenance and resistant to corrosion in non-aggressive environments.
- **Impellers and diffusers** made of microcast stainless steel.
- **Delivery casting** made of microcast stainless steel.
- **Non-return valve** made of stainless steel stainless steel, with integrated spring.
- **Suction support** made of microcast stainless steel.
- **Shaft** made of stainless steel.
- **Coupling and flange mounting** according to NEMA standard for 6" and 8" motor, with key connection for 10" and 12" motor.

#### OPTIONAL FEATURES

- Customized impeller versions.

#### ACCESSORIES

- Coupling flanges.
- Control panels.
- Drop cables.
- Temperature sensor **PT 100 / PTC**.
- Cable joints
- Cooling shrouds.

**Z10 SERIES  
PUMP CROSS SECTION AND LIST OF COMPONENTS**


03801\_B\_DS



## TABLE OF MATERIALS Z10

REF.N°	COMPONENT	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Diffuser	Acciaio inox	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
2	Lower support / Suction Casing	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
3	Delivery head	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
4	Valve Casing	Acciaio inox	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
5	Bearing bush	EPDM + Lubricant		
6	Impeller	Stainless steel	EN 10213-GX5CrNi19-11 (1.4308)	A744-CF 8
7	Wear ring	Tecnopolymer POM-C		
8	Pump shaft	Stainless steel	EN 10088-1-X17CrNi16-2 (1.4057)	AISI 431
9	Coupling	Stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
10	Taperlock	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
11	Thrust Bearing	PTFE + 25% carbon		
12	Valve	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
13	Valve seal	NBR 90		
14	Valve spring	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
15	Wing valve			
16	Suction strainer	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
17	Motor cable			
18	Cable protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
19	Diffuser O-Ring	NBR 70		
20	Intermediate ring			
21	Screw, stud, nut	Stainless steel	ISO 3506-1/2 A4-70	AISI 316

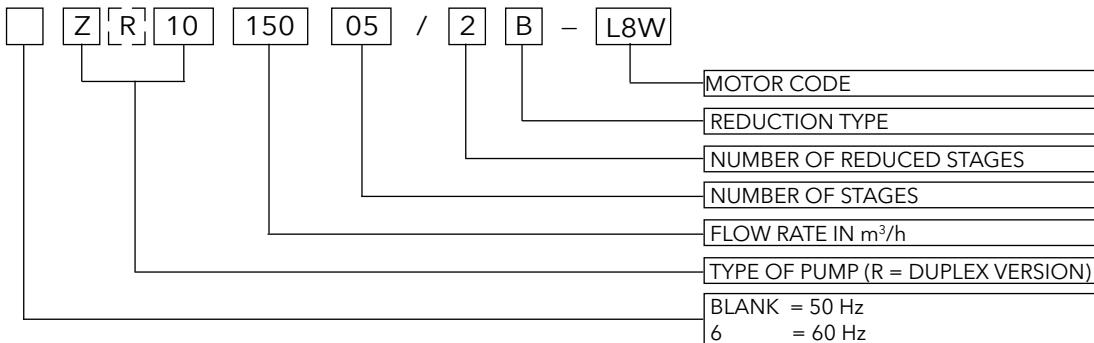
z10-2p50-en\_d\_tm

## TABLE OF MATERIALS ZR10

REF.N°	COMPONENT	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Diffuser	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
2	Lower support / Suction Casing	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
3	Delivery head	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
4	Valve Casing	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
5	Bearing bush	EPDM + Lubricant		
6	Impeller	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
7	Wear ring	Tecnopolimery POM-C		
8	Pump shaft	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Coupling	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
10	Taperlock	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
11	Thrust Bearing	PTFE + 25% carbon		
12	Valve	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
13	Valve seal	NBR 90		
14	Valve spring	Hastelloy C4	DIN17744-NiMo16Cr16Ti (2.4610)	N06455
15	Wing valve			
16	Suction strainer	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
17	Motor cable			
18	Cable protection	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
19	Diffuser O-Ring	NBR 70		
20	Intermediate ring			
21	Screw, stud, nut	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803

zr10-2p50-en\_c\_tm

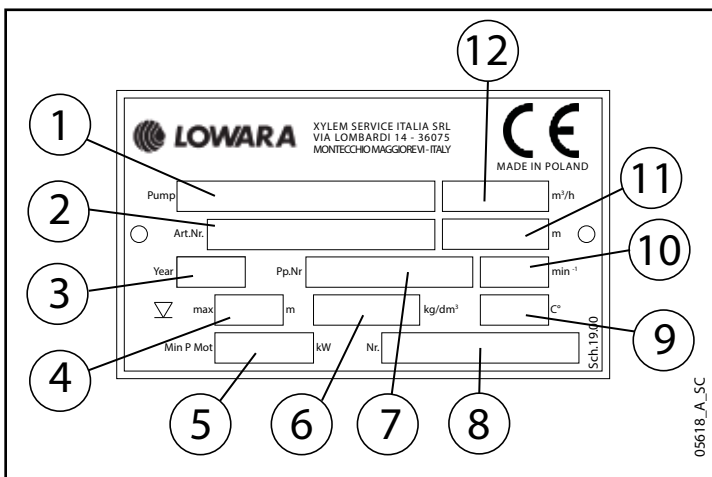
## Z10-ZR10 SERIES IDENTIFICATION CODES



EXAMPLE : ZR10 150 05/2B - L8W

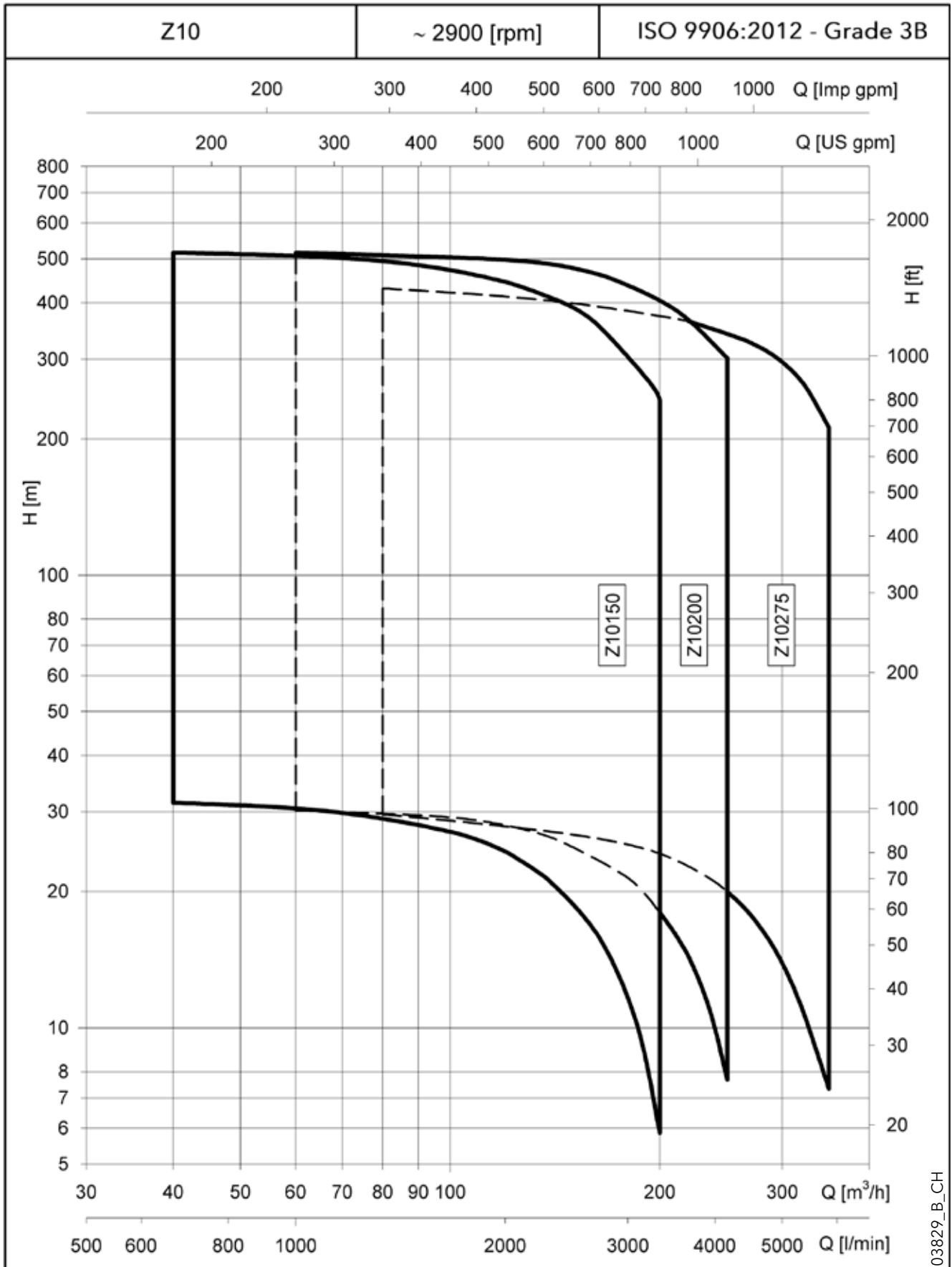
10" electric pump, 50 Hz, made of DUPLEX, flow rate 150 m<sup>3</sup>/h, 5 stages including 2 reduced ones, coupled to an 8" L8W motor.

## Z10-ZR10 SERIES RATING PLATE



### LEGEND

- 1 - Pump type
- 2 - Article code of the pump
- 3 - Year of production
- 4 - Max. immersion depth
- 5 - Min. required motor power
- 6 - Density of medium
- 7 - Data set entry for additional identification
- 8 - Serial number
- 9 - Max. water temperature
- 10 - Speed
- 11 - Head
- 12 - Nominal flow

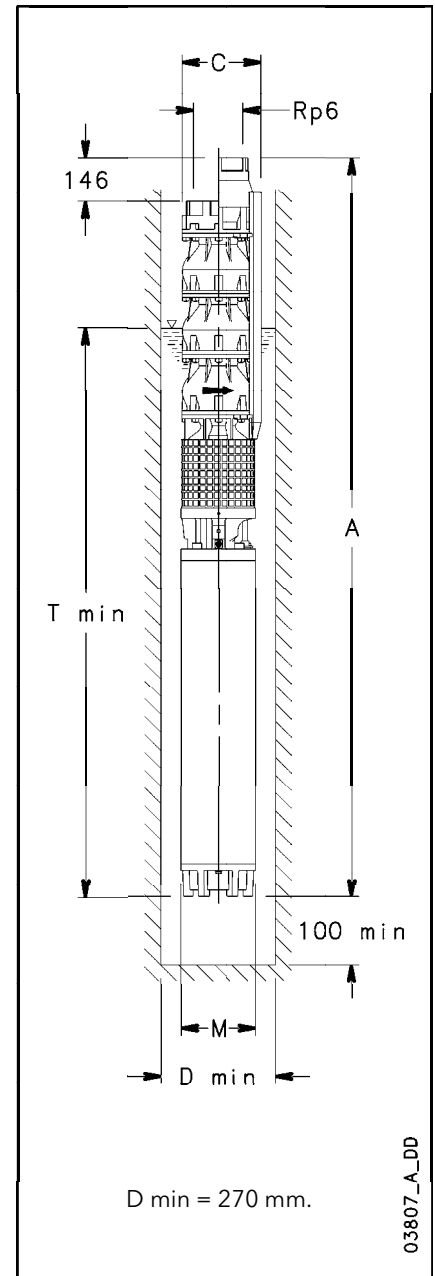
**Z10 SERIES  
ELECTROPUMPS HYDRAULIC PERFORMANCE RANGE**


03829\_B\_CH

## Z10150 SERIES, 1 TO 3 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	667	1333	2000	2500	3000
		m <sup>3</sup> /h	0	40	80	120	150	180
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z10150 01/1C	11	34	31	29	25	19	12	
Z10150 01/1B	13	39	36	34	30	25	18	
Z10150 01/1A	15	42	40	38	34	29	22	
Z10150 02/2C	22	67	63	58	49	38	23	
Z10150 02/2B	26	79	74	70	60	50	36	
Z10150 02/2A	30	86	81	77	68	59	45	
Z10150 03/2C	37	112	105	98	85	69	48	
Z10150 03/2B	45	123	116	109	96	81	61	
Z10150 03/2A	45	129	121	115	102	88	68	
Z10150 03	52	134	126	121	109	94	74	

z10150-2p50-1-en\_a\_th

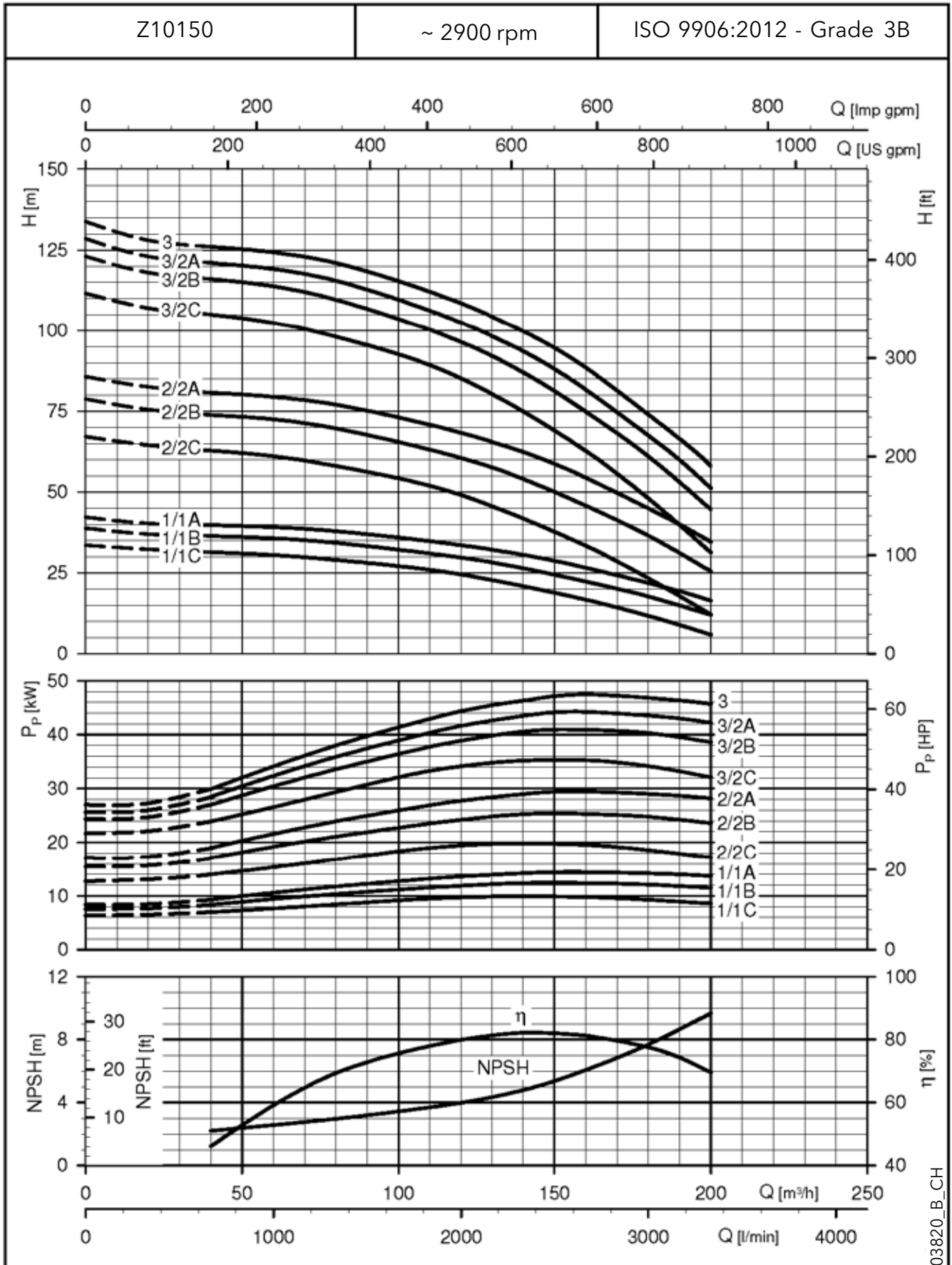


## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z10150 01/1C-L6W	11	1428	258	144	2323	103
Z10150 01/1B-L6W	13	1468	258	144	2363	107
Z10150 01/1A-L6W	15	1538	258	144	2433	115
Z10150 02/2C-L6W	22	1864	258	144	2543	146
Z10150 02/2B-L6W	26	1992	258	144	2671	155
Z10150 02/2A-L6W	30	2072	258	144	2751	163
Z10150 03/2C-L6W	37	2388	258	144	2851	203
Z10150 03/2B-L8W	45	2272	258	192	2735	270
Z10150 03/2A-L8W	45	2272	258	192	2735	270
Z10150 03-L8W	52	2352	258	192	2815	290

z10150-2p50-1-en\_b\_td

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 255 mm with L6W motor.  
C = 255 mm with L8W motor.
- 2) T min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 146 mm, and reduce weight by 8,3 Kg.

**Z10150 SERIES, 1 TO 3 STAGES  
ELECTROPUMPS OPERATING CHARACTERISTICS**


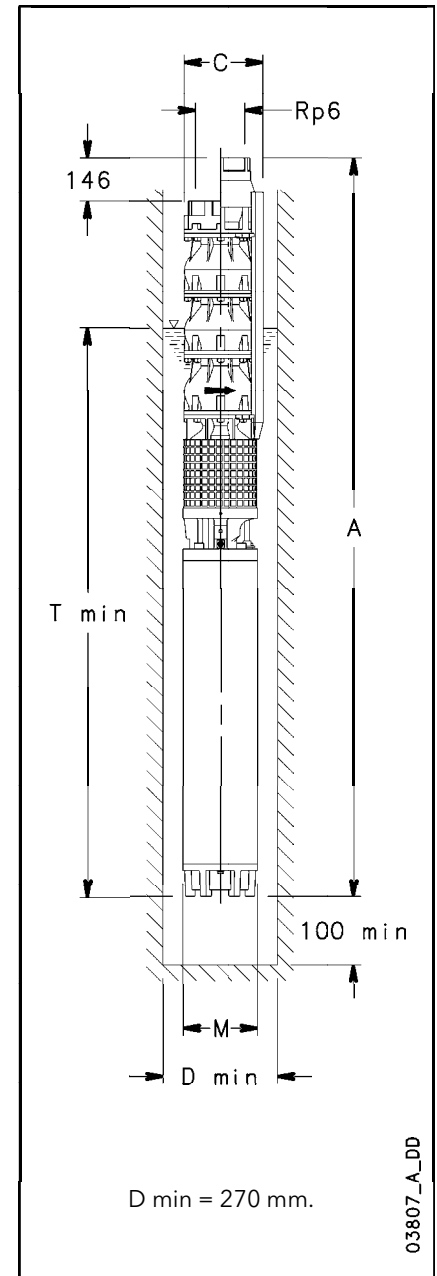
03820\_B\_CH

 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z10150 SERIES, 4 TO 6 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	667	1333	2000	2500	3000
		m <sup>3</sup> /h	0	40	80	120	150	180
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z10150 04/2C	52	157	147	138	122	101	74	
Z10150 04/2B	60	169	158	150	133	113	87	
Z10150 04	67	178	168	161	145	126	98	
Z10150 05/2C	67	201	189	178	158	132	98	
Z10150 05/2B	75	212	199	189	168	144	110	
Z10150 05	83	221	209	200	179	156	122	
Z10150 06/2C	83	245	231	218	194	163	122	
Z10150 06/1B	93	263	248	236	211	183	143	
Z10150 06	110	273	158	247	223	194	154	

z10150-2p50-2-en\_a\_th



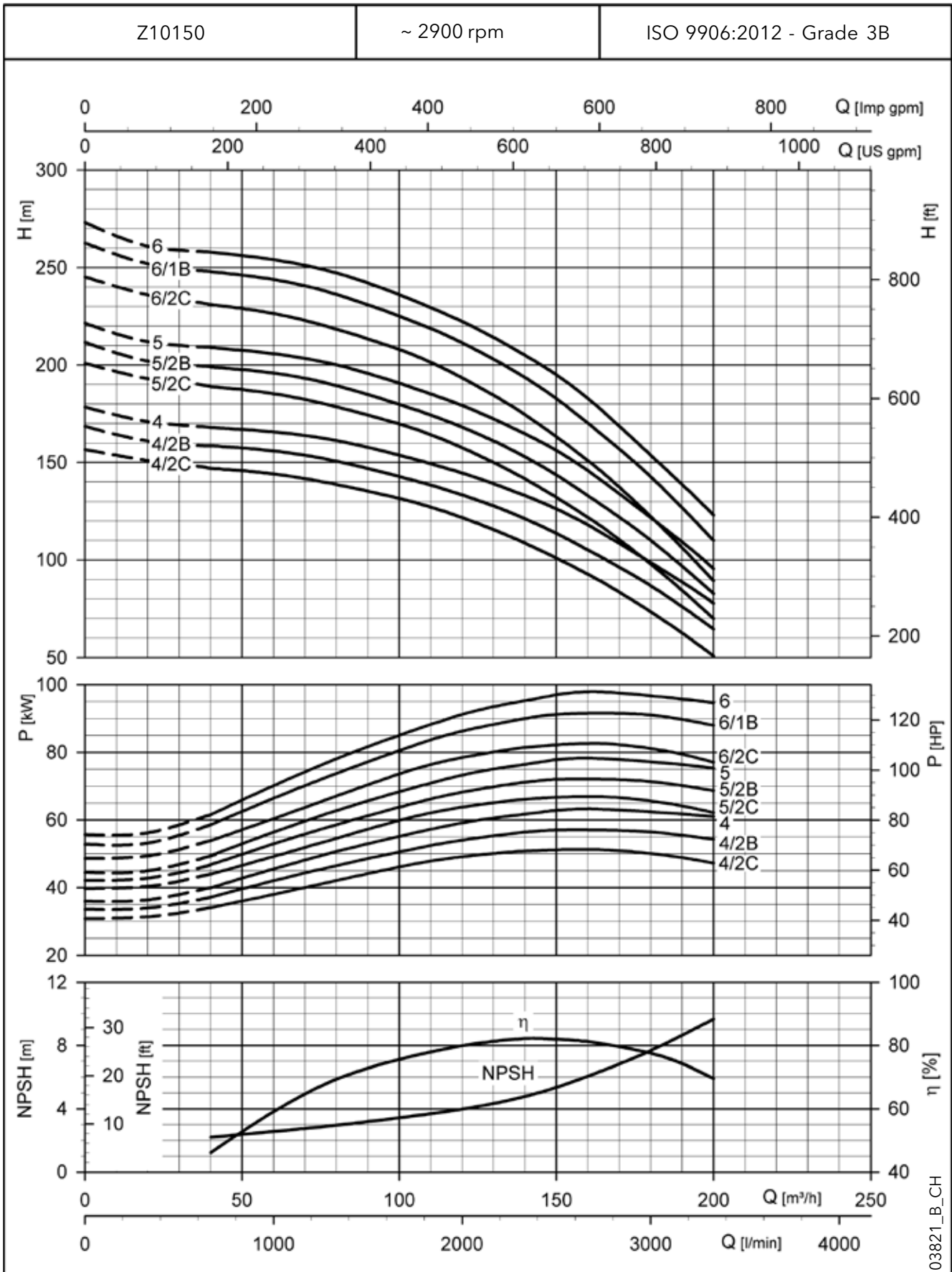
## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z10150 04/2C-L8W	52	2578	258	192	2815	311
Z10150 04/2B-L8W	60	2648	258	192	2895	328
Z10150 04-L8W	67	2818	258	192	2975	346
Z10150 05/2C-L8W	67	2944	258	192	2975	367
Z10150 05/2B-L8W	75	3024	258	192	3055	384
Z10150 05-L8W	83	3114	258	192	3145	397
Z10150 06/2C-L8W	83	3330	258	192	3145	417
Z10150 06/1B-L8W	93	3440	258	192	3455	442
Z10150 06-L10W	110	3524	259	236	3302	558

z10150-2p50-2-en\_b\_td

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 255 mm with L8W motor.  
C = 255 mm with L10W motor.
- 2) T min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 146 mm, and reduce weight by 8,3 Kg.

### Z10150 SERIES, 4 TO 6 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



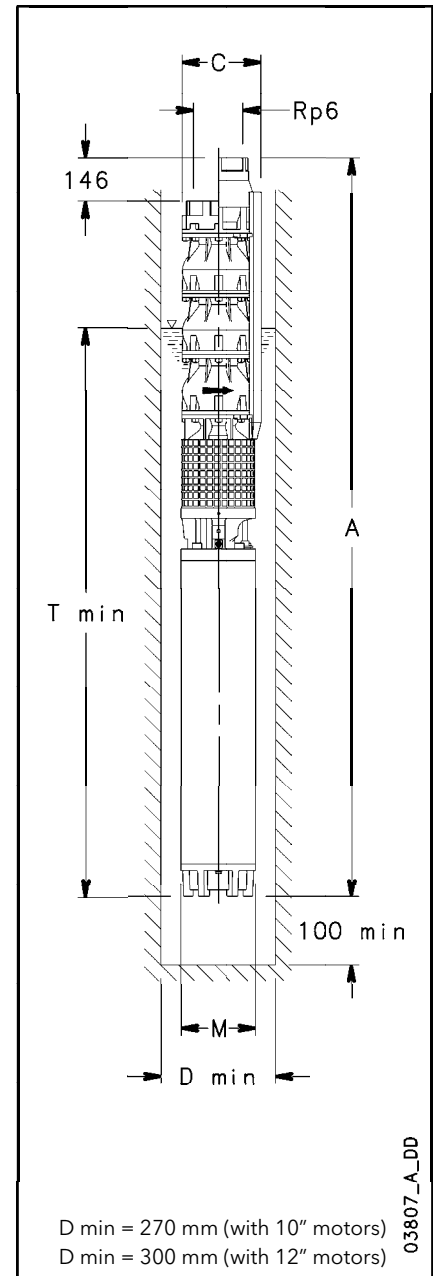
03821\_B\_CH

These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z10150 SERIES, 7 TO 12 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	667	1333	2000	2500	3000
		m <sup>3</sup> /h	0	40	80	120	150	180
		H = TOTAL HEAD METRES COLUMN OF WATER						
kW								
Z10150 07/3B	110	301	284	270	240	207	159	
Z10150 07/1B	110	312	294	280	252	219	172	
Z10150 08/3B	130	349	329	313	279	241	189	
Z10150 08	130	362	342	327	295	257	203	
Z10150 09/3B	150	395	372	354	316	274	213	
Z10150 09	150	410	387	371	335	292	231	
Z10150 10	185	455	430	412	372	324	257	
Z10150 11	185	499	472	452	407	355	281	
Z10150 12	220	546	517	494	446	389	308	

z10150-2p50-3-en\_a\_th



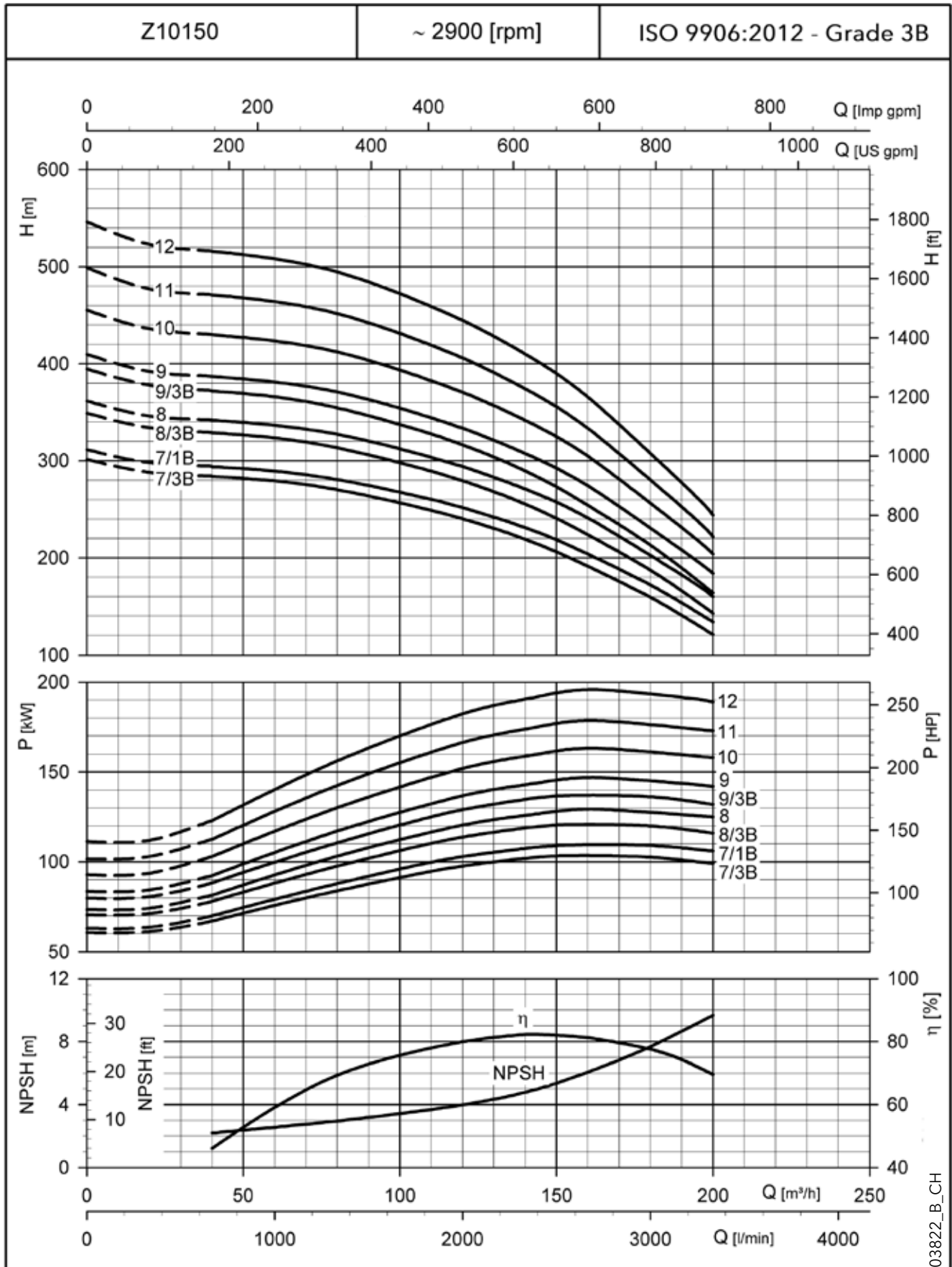
## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT kg (3)
		A (4)	C (1)	M	T (2)	
		kW				
Z10150 07/3B-L10W	110	3740	259	236	3302	579
Z10150 07/1B-L10W	110	3740	259	236	3302	579
Z10150 08/3B-L10W	130	4106	259	236	3452	647
Z10150 08-L10W	130	4106	259	236	3452	647
Z10150 09/3B-L10W	150	4452	259	236	3582	706
Z10150 09-L10W	150	4452	259	236	3582	706
Z10150 10-L12W	185	4425	283	276	3339	793
Z10150 11-L12W	185	4641	283	276	3339	814
Z10150 12-L12W	220	5007	283	276	3489	898

z10150-2p50-3-en\_a\_td

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 255 mm with L10W motor.  
C = 280 mm with L12W motor.
- 2) T min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 146 mm, and reduce weight by 8,3 Kg.



**Z10150 SERIES, 7 TO 12 STAGES  
ELECTROPUMPS OPERATING CHARACTERISTICS**


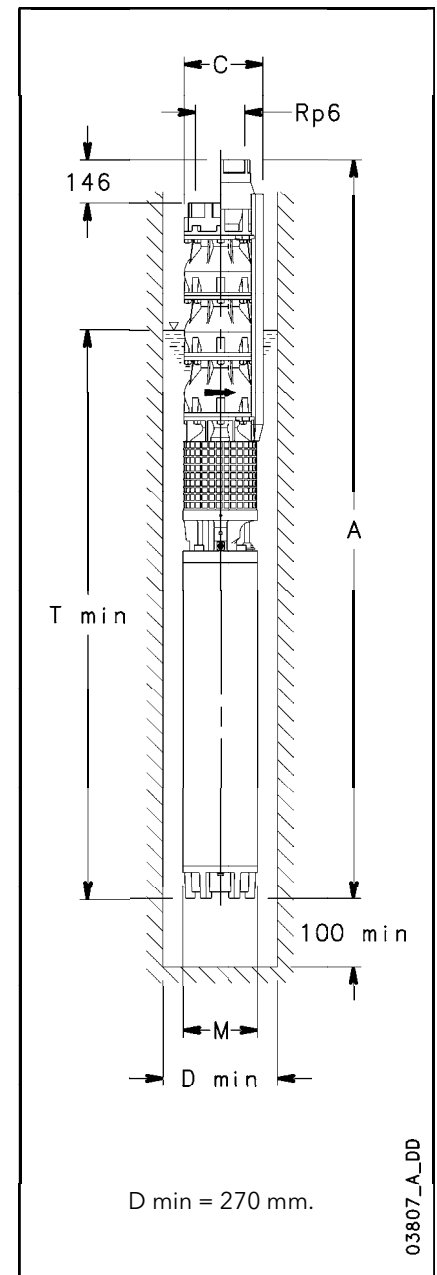
03822\_B\_CH

 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z10220 SERIES, 1 TO 3 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	1000	2000	3000	4000	5000
		m <sup>3</sup> /h	0	60	120	180	240	300
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z10220 01/1C	15	32,5	30,4	27,2	22,3	14,5	1,0	
Z10220 01/1B	18,5	37,2	34,9	32,1	27,9	20,3	8,3	
Z10220 01/1A	22	41,3	38,7	35,9	32,4	25,0	13,6	
Z10220 01	26	44,7	41,6	38,8	35,6	28,7	18,3	
Z10220 02/2C	30	65,5	61,2	54,9	45,8	29,5	2,0	
Z10220 02/2B	37	75,4	70,8	65,1	56,9	41,7	16,8	
Z10220 02/2A	45	83,9	78,4	72,9	65,8	51,1	28,6	
Z10220 02	52	89,4	83,2	77,6	71,2	57,5	36,8	
Z10220 03/2B	60	119,9	112,3	103,8	92,2	70,5	35,3	
Z10220 03/2A	67	128,5	120,1	111,6	101,2	79,8	46,8	
Z10220 03	75	134,1	124,8	116,3	106,7	86,3	55,1	

z10220-2p50-1-en\_a\_th

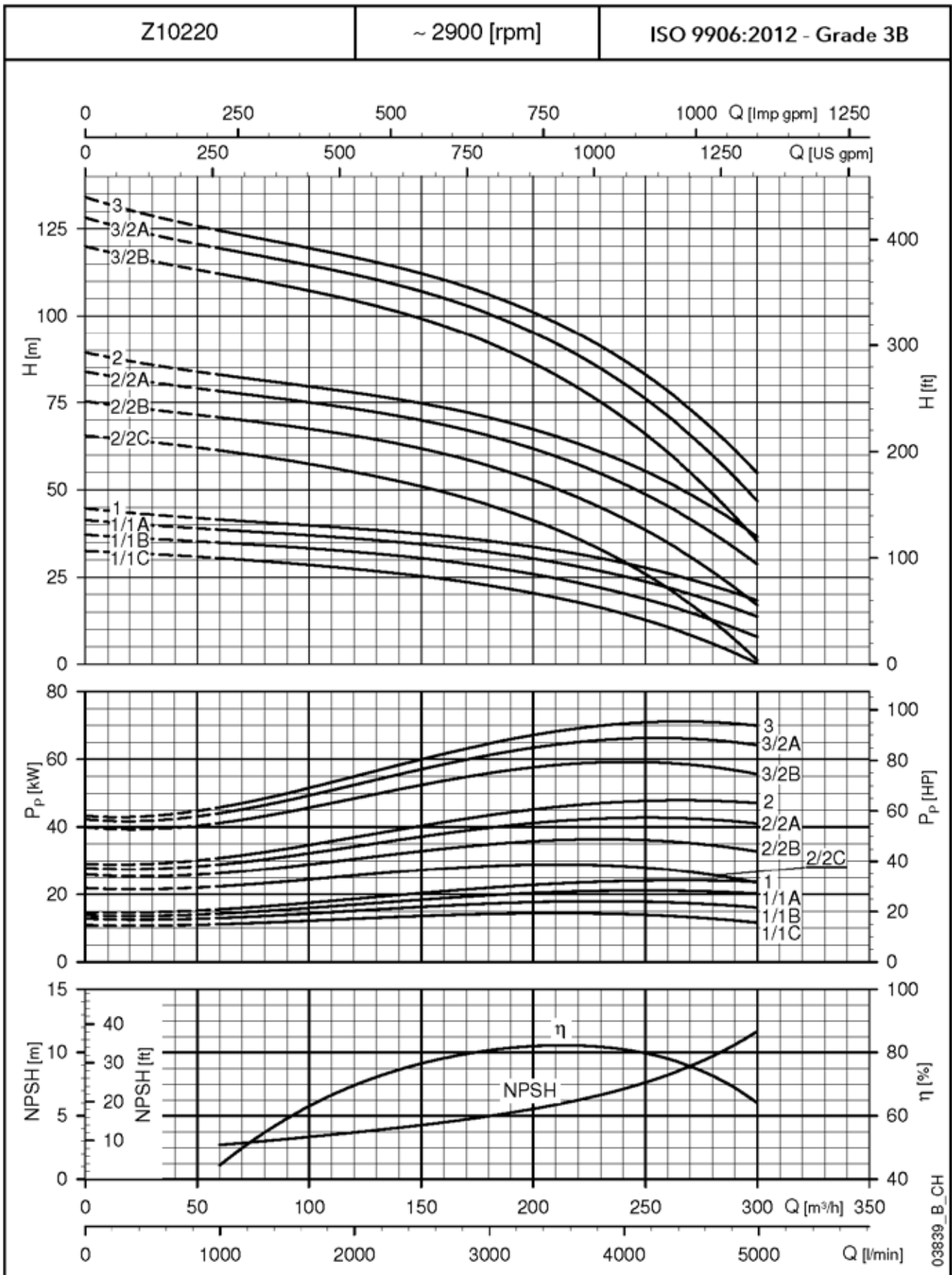


## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z10220 01/1C-L6W	15	1538	258	144	3733	114
Z10220 01/1B-L6W	18,5	1608	258	144	3803	122
Z10220 01/1A-L6W	22	1648	258	144	3843	125
Z10220 01-L6W	26	1776	258	144	3971	134
Z10220 02/2C-L6W	30	2072	258	144	4051	161
Z10220 02/2B-L6W	37	2172	258	144	4151	180
Z10220 02/2A-L8W	45	2056	258	192	4035	247
Z10220 02-L8W	52	2136	258	192	4115	267
Z10220 03/2B-L8W	60	2432	258	192	4195	304
Z10220 03/2A-L8W	67	2512	258	192	4275	322
Z10220 03-L8W	75	2592	258	192	4355	339

z10220-2p50-1-en\_b\_td

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 255 mm with L6W motor.  
C = 255 mm with L8W motor.
- 2) T min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 146 mm, and reduce weight by 8,3 Kg.

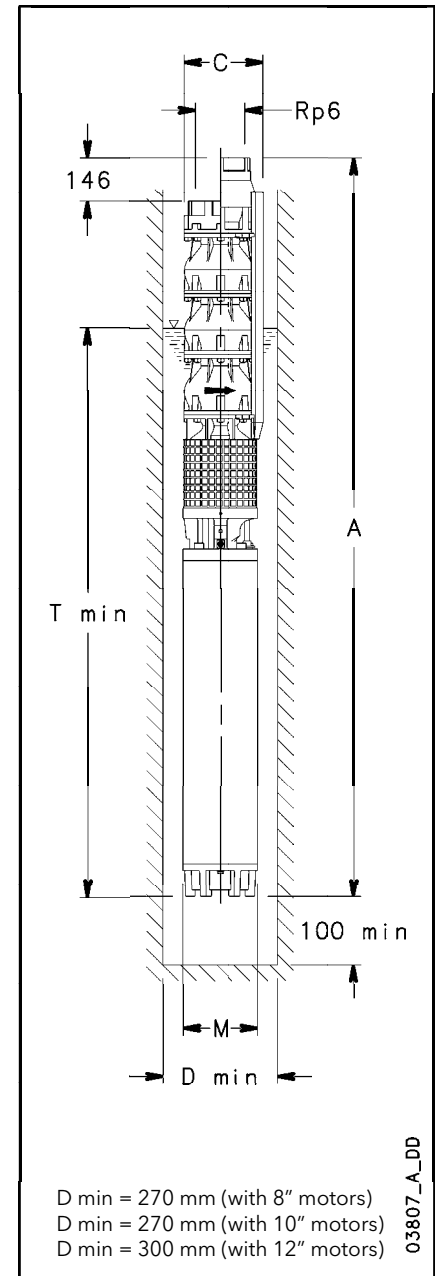
**Z10220 SERIES, 1 TO 3 STAGES  
ELECTROPUMPS OPERATING CHARACTERISTICS**


These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z10220 SERIES, 4 TO 7 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	1000	2000	3000	4000	5000
		m <sup>3</sup> /h	0	60	120	180	240	300
		H = TOTAL HEAD METRES COLUMN OF WATER						
Z10220 04/2B	83	165	155	143	128	99	54	
Z10220 04/2A	93	173	162	150	137	109	66	
Z10220 04	110	182	170	159	146	119	79	
Z10220 05/2B	110	215	201	186	168	133	79	
Z10220 05	130	231	213	199	182	148	99	
Z10220 06/2B	150	262	245	228	206	165	100	
Z10220 06	150	274	255	238	219	178	118	
Z10220 07/2B	185	305	297	278	256	208	118	
Z10220 07	185	320	297	278	256	208	138	

z10220-2p50-2-en\_a\_th



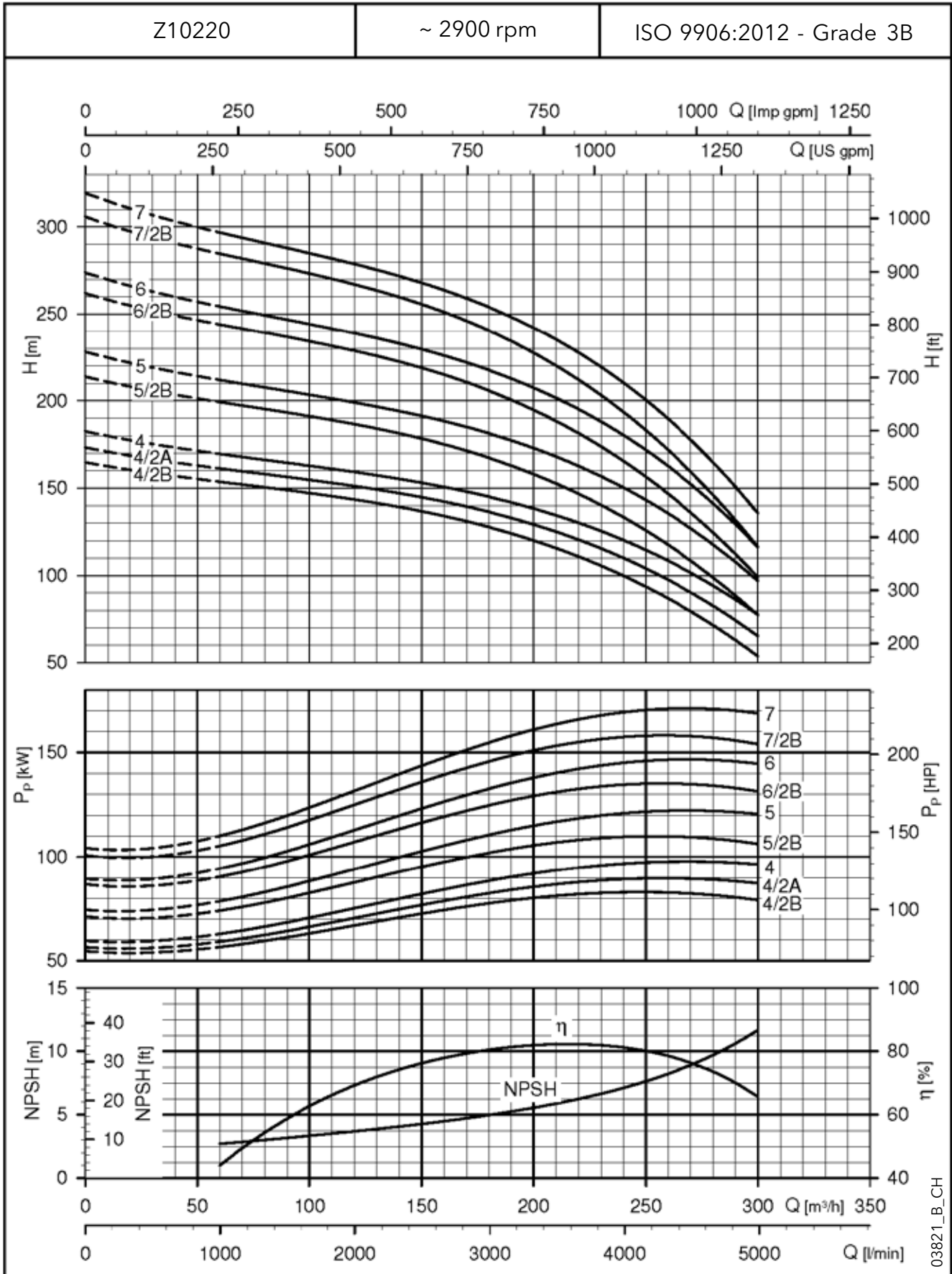
z10220-2p50-2-en\_a\_td

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z10220 04/2B-L8W	83	2968	258	192	4515	371
Z10220 04/2A-L8W	93	3108	258	192	4655	396
Z10220 04-L10W	110	3092	259	236	4602	512
Z10220 05/2B-L10W	110	3308	259	236	4602	531
Z10220 05-L10W	130	3458	259	236	4752	578
Z10220 06/2B-L10W	150	3804	259	236	4882	636
Z10220 06-L10W	150	3804	259	236	4882	636
Z10220 07/2B-L12W	185	3777	283	276	4639	722
Z10220 07-L12W	185	3777	283	276	4639	722

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 255 mm with L8W motor.  
C = 255 mm with L10W motor and C = 280 mm with L12W motor.
- 2) T min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 146 mm, and reduce weight by 8,3 Kg.

**Z10220 SERIES, 4 TO 7 STAGES  
ELECTROPUMPS OPERATING CHARACTERISTICS**



03821\_B\_CH

These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z10220 SERIES, 8 TO 12 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

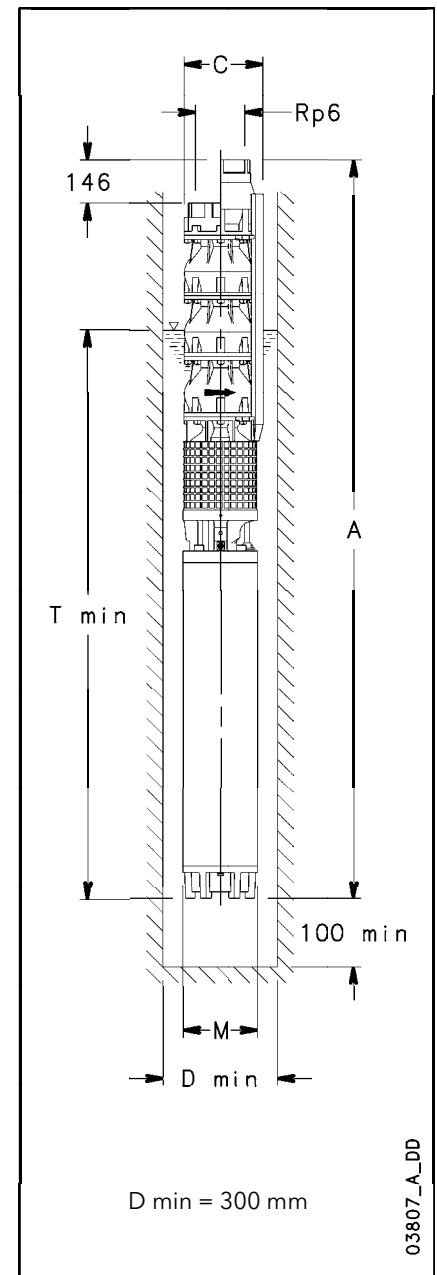
PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	1000	2000	3000	4000	5000
		m <sup>3</sup> /h	0	60	120	180	240	300
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z10220 08/2B	185	351	328	305	277	223	138	
Z10220 08	220	367	343	321	294	241	160	
Z10220 09/2B	220	399	373	347	316	255	160	
Z10220 09/1A	220	410	383	357	328	267	173	
Z10220 10/2B	260	446	416	387	353	285	179	
Z10220 10	260	460	428	400	368	300	200	
Z10220 11/2B	260	488	456	423	386	312	196	
Z10220 11	300	505	471	440	405	330	220	
Z10220 12/2B	300	536	500	465	425	344	218	
Z10220 12	300	549	512	478	440	358	235	

z10220-2p50-3-en\_a\_th

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z10220 08/2B-L12W	185	3993	283	276	4639	741
Z10220 08-L12W	220	4143	283	276	4789	805
Z10220 09/2B-L12W	220	4359	283	276	4789	824
Z10220 09/1A-L12W	220	4359	283	276	4789	824
Z10220 10/2B-L12W	260	4725	283	276	4939	907
Z10220 10-L12W	260	4725	283	276	4939	907
Z10220 11/2B-L12W	260	4941	283	276	4939	927
Z10220 11-L12W	300	5091	283	276	5089	992
Z10220 12/2B-L12W	300	5307	283	276	5089	1011
Z10220 12-L12W	300	5307	283	276	5089	1011

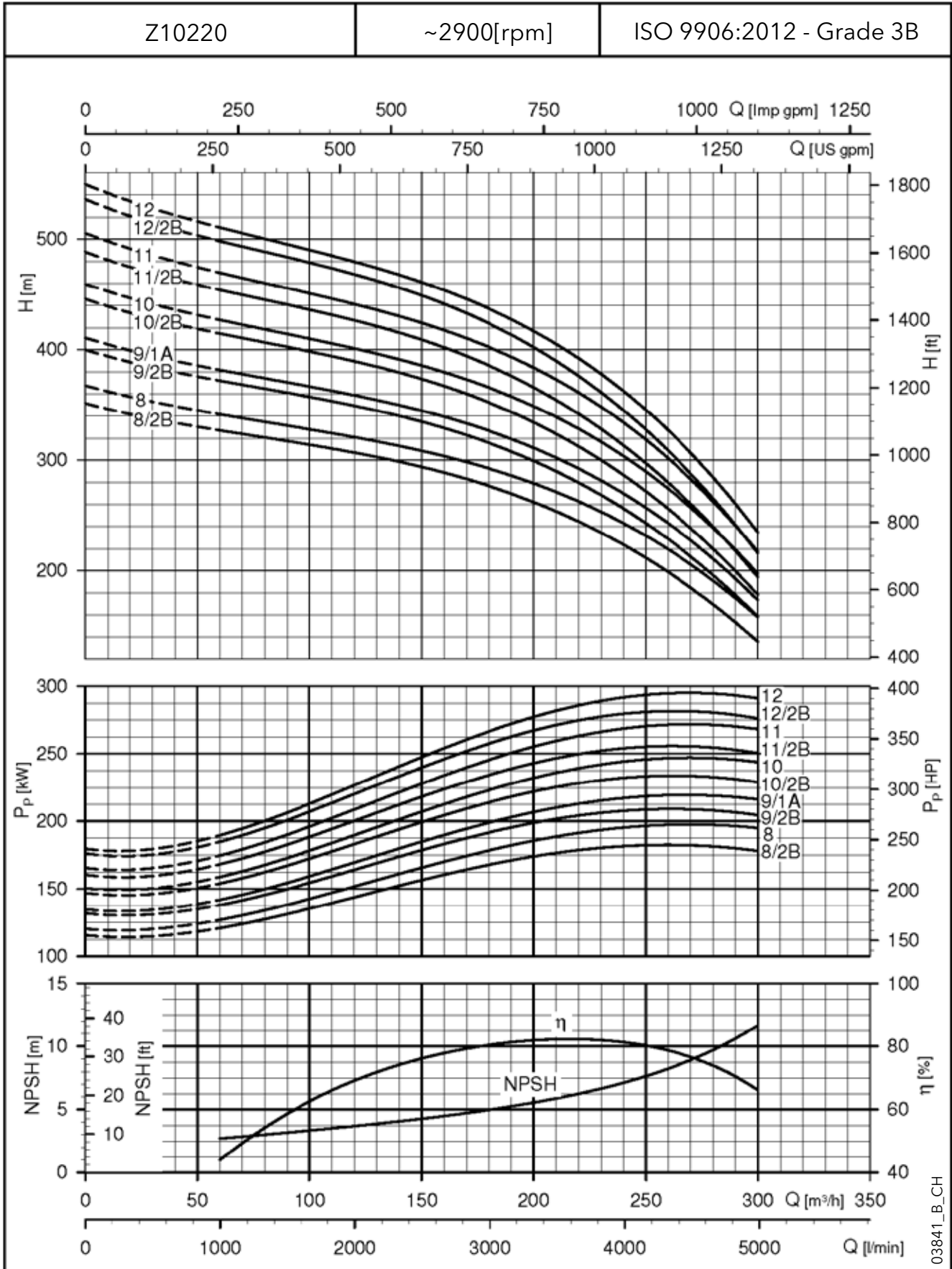
z10220-2p50-3-en\_a\_td



03807\_A\_DD

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 280 mm with L12W motor.
- 2) T min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 146 mm, and reduce weight by 8,3 Kg.

**Z10220 SERIES, 8 TO 12 STAGES  
ELECTROPUMPS OPERATING CHARACTERISTICS**



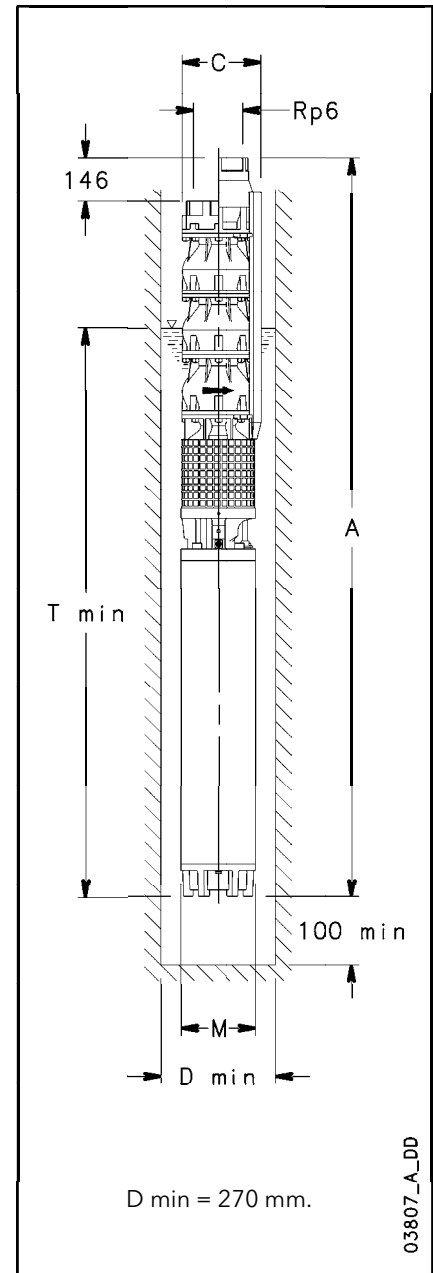
03841\_B\_CH

These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z10275 SERIES, 1 TO 3 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	1333	2500	3667	4667	5833
		m <sup>3</sup> /h	0	80	150	220	280	350
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z10275 01/1B	18,5	33	29,7	26,6	22,6	16,5		
Z10275 01/1A	22	37,5	34,1	31	27,5	22,2	12,3	
Z10275 01	30	41,6	38,6	35,9	32,6	28,5	18,6	
Z10275 02/2B	37	67	60,3	54	46,1	34		
Z10275 02/2A	45	75,7	69,2	62,9	56	45,4	26	
Z10275 02	55	82,6	76,7	71	64,6	56,4	36,5	
Z10275 03/2B	60	107,8	98,3	89,2	78	61,8		
Z10275 03/3A	67	113,6	103,8	94,3	84,1	68,2	39	
Z10275 03/1A	75	120,5	111,3	102,6	92,5	79	50	
Z10275 03	83	123,9	115,1	106,8	97	84,6	54,8	

z10275-2p50-1-en\_a\_th



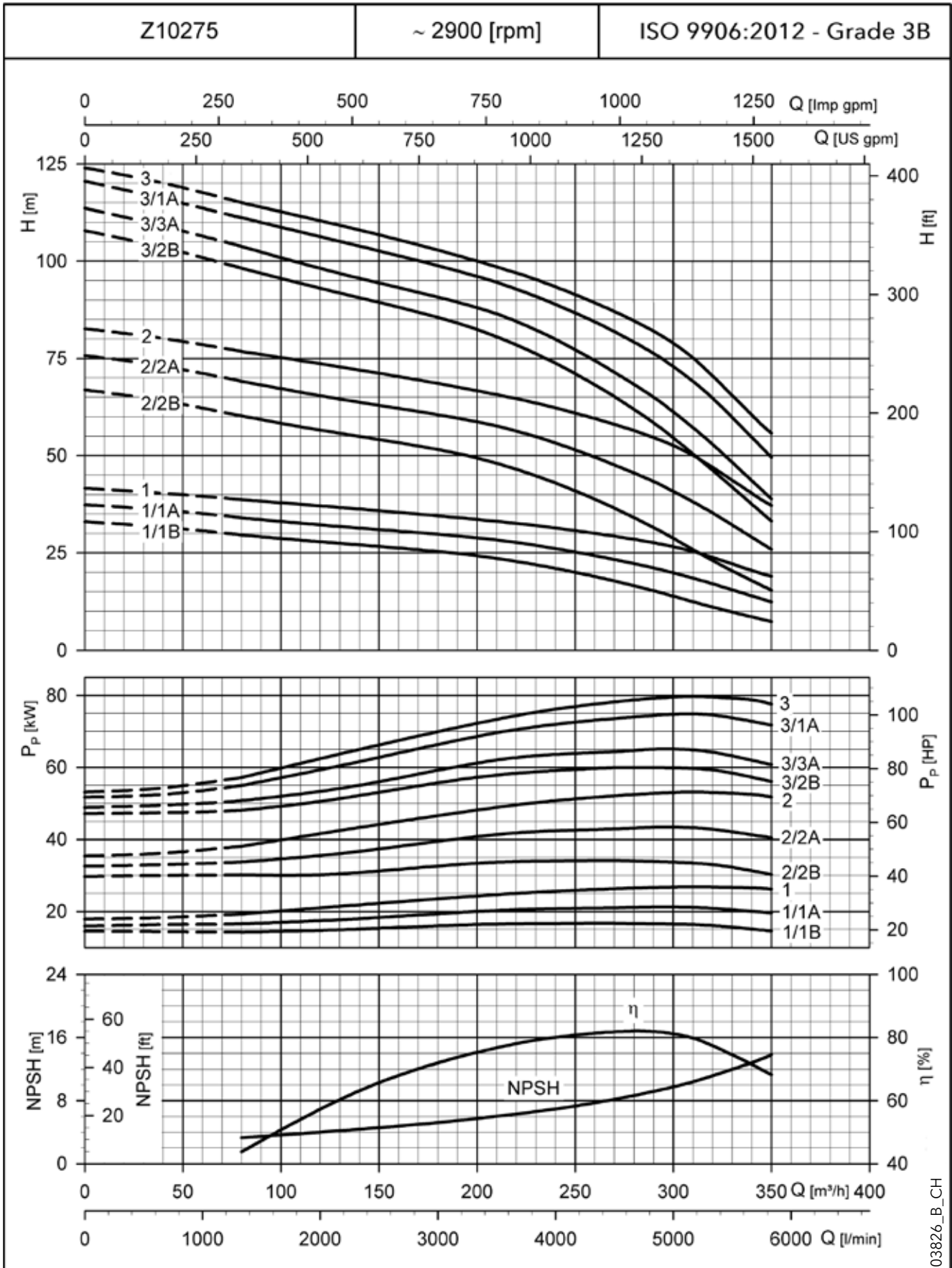
## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z10275 01/1B-L6W	19	1608	258	144	3803	122
Z10275 01/1A-L6W	22	1648	258	144	3843	125
Z10275 01-L6W	30	1856	258	144	4051	142
Z10275 02/2B-L6W	37	2172	258	144	4151	180
Z10275 02/2A-L8W	45	2056	258	192	4035	248
Z10275 02-L8W	55	2166	258	192	4145	274
Z10275 03/2B-L8W	60	2432	258	192	4195	304
Z10275 03/3A-L8W	67	2512	258	192	4275	322
Z10275 03/1A-L8W	75	2592	258	192	4355	339
Z10275 03-L8W	83	2682	258	192	4445	352

z10275-2p50-1-en\_b\_td

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 255 mm with L6W motor.  
C = 255 mm with L8W motor.
- 2) T min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 146 mm, and reduce weight by 8,8 Kg.



**Z10275 SERIES, 1 TO 3 STAGES  
ELECTROPUMPS OPERATING CHARACTERISTICS**


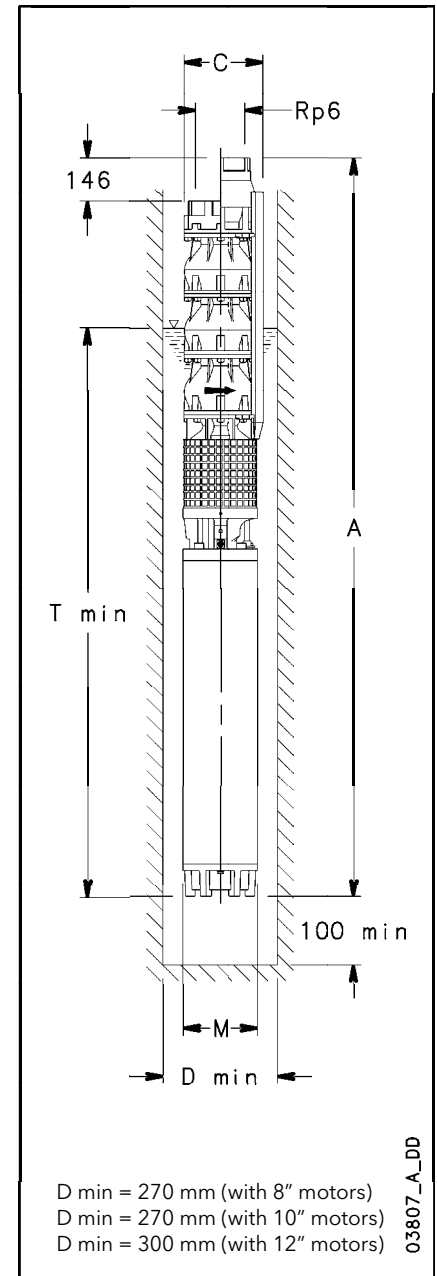
03826\_B\_CH

 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z10275 SERIES, 4 TO 7 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	1333	2500	3667	4667	5833
		m <sup>3</sup> /h	0	80	150	220	280	350
		kW	H = TOTAL HEAD METRES COLUMN OF WATER					
Z10275 04/3A	93,0	154	142	130	116	96	58	
Z10275 04/2A	110	162	150	138	124	105	67	
Z10275 04	110	169	157	146	132	116	77	
Z10275 05/3A	130	202	186	171	154	130	82	
Z10275 05	150	212	197	183	167	146	98	
Z10275 06/3A	150	242	224	206	186	157	100	
Z10275 06	185	253	235	218	199	174	116	
Z10275 07/2A	185	288	267	246	223	192	124	
Z10275 07	185	297	276	257	233	205	138	

z10275-2p50-2-en\_a\_th



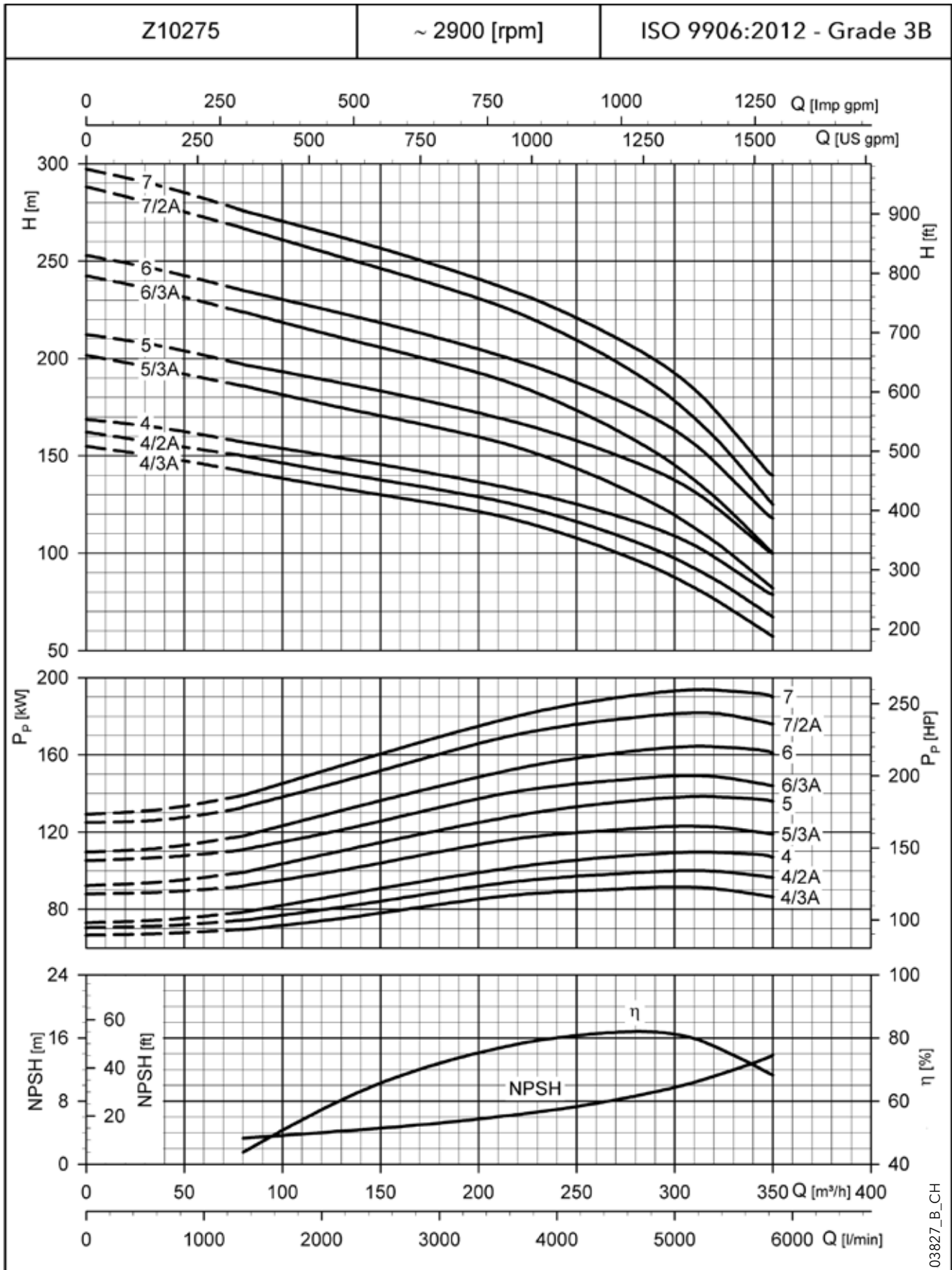
z10275-2p50-2-en\_a\_td

## ELECTROPUMPS DIMENSIONS AND WEIGHT

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
		kW				kg (3)
Z10275 04/3A-L8W	93	3108	258	192	4655	397
Z10275 04/2A-L10W	110	3092	259	236	4602	513
Z10275 04-L10W	110	3092	259	236	4602	513
Z10275 05/3A-L10W	130	3458	259	236	4752	579
Z10275 05-L10W	150	3588	259	236	4882	618
Z10275 06/3A-L10W	150	3804	259	236	4882	638
Z10275 06-L12W	185	3561	283	276	4639	703
Z10275 07/2A-L12W	185	3777	283	276	4639	723
Z10275 07-L12W	185	3777	283	276	4639	723

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 255 mm with L8W motor.  
C = 255 mm with L10W motor and C = 280 mm with L12W motor.
- 2) T min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 146 mm, and reduce weight by 8,8 Kg.

### Z10275 SERIES, 4 TO 7 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



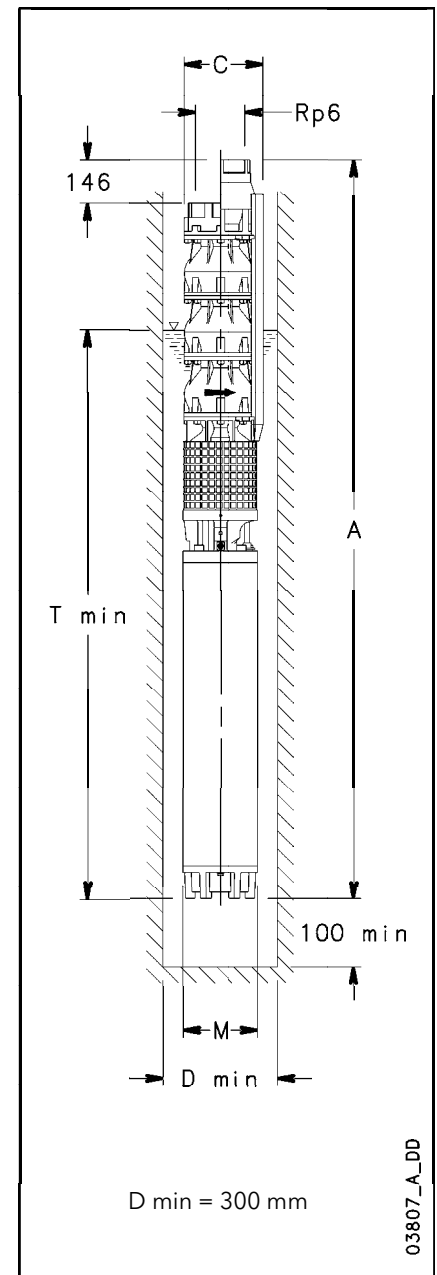
03827\_B\_CH

These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z10275 SERIES, 8 TO 11 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	1333	2500	3667	4667	5833
		m3/h	0	80	150	220	280	350
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z10275 08/2B	220	324	299	276	248	217	143	
Z10275 08/1A	220	336	312	289	263	229	152	
Z10275 09/3A	260	372	344	317	287	247	160	
Z10275 09	260	382	355	330	300	264	177	
Z10275 10/3A	260	413	382	352	319	275	179	
Z10275 10	300	426	396	368	335	294	199	
Z10275 11/1A	300	464	430	399	363	316	211	

z10275-2p50-3-en\_a\_th



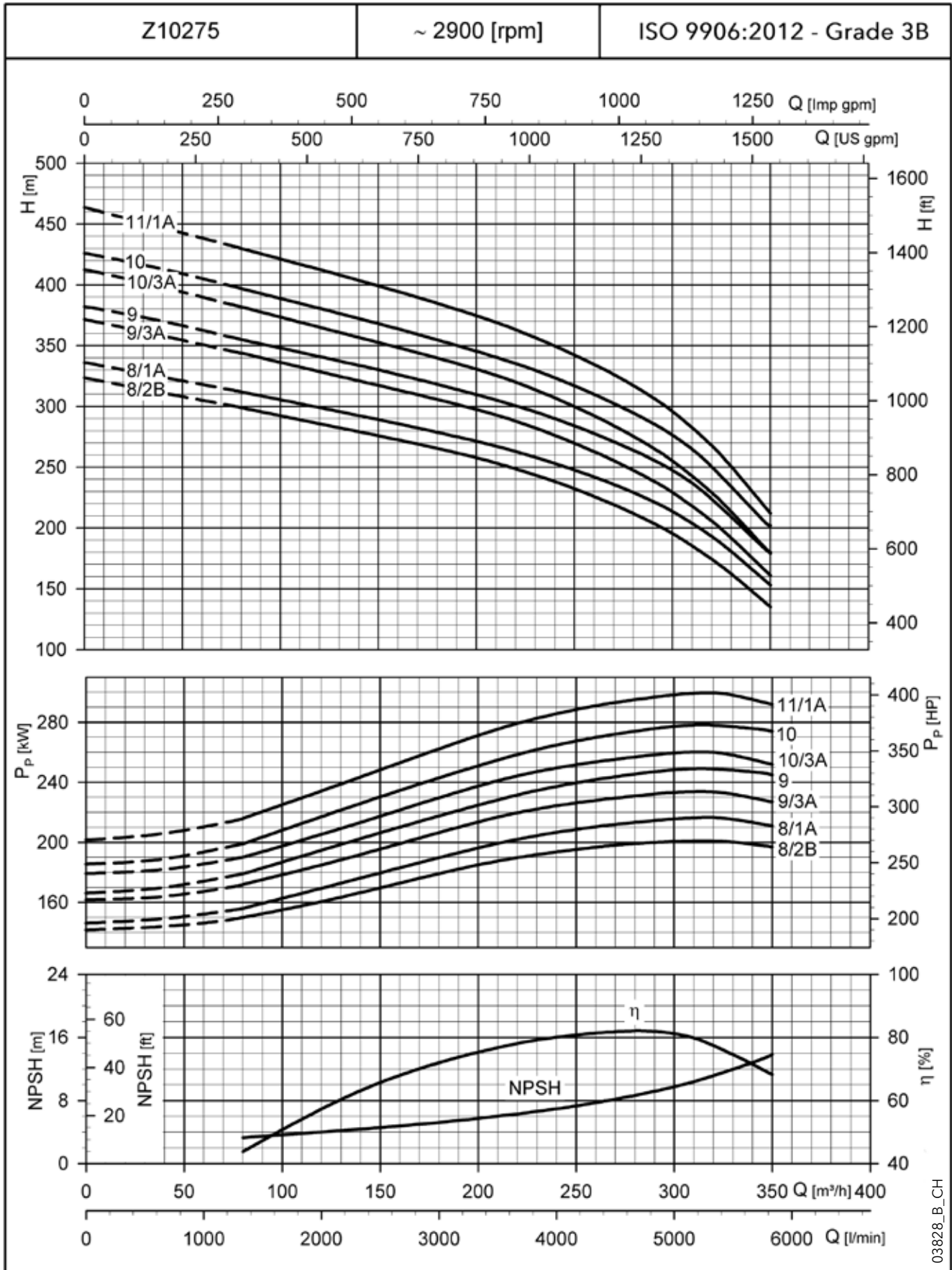
## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z10275 08/2B-L12W	220	4143	283	276	4789	806
Z10275 08/1A-L12W	220	4143	283	276	4789	806
Z10275 09/3A-L12W	260	4509	283	276	4939	890
Z10275 09-L12W	260	4509	283	276	4939	890
Z10275 10/3A-L12W	260	4725	283	276	4939	909
Z10275 10-L12W	300	4875	283	276	5089	974
Z10275 11/1A-L12W	300	5091	283	276	5089	994

z10275-2p50-3-en\_a\_td

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 280 mm with L12W motor.
- 2) T min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 146 mm, and reduce weight by 8,8 Kg.

### Z10275 SERIES, 8 TO 11 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



03828\_B\_CH

These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z10150 PUMP SERIES PUMPS DIMENSIONS AND WEIGHTS

PUMP TYPE	MAX POWER ABSORBED BY PUMP kW	DIMENSIONS (mm)			WEIGHT kg <sup>(3)</sup>	Ø MIN. WELL mm
		L <sup>(4)</sup>	C <sup>(1)</sup>	U <sup>(2)</sup>		
Z10150 01/1C-6	10,3	442	258	1600	48,1	270
Z10150 01/1B-6	12,8	442	258	1600	48,1	270
Z10150 01/1A-6	14,8	442	258	1600	48,1	270
Z10150 02/2C-6	20,5	658	258	1600	68,8	270
Z10150 02/2B-6	25,7	658	258	1600	68,8	270
Z10150 02/2A-6	29,6	658	258	1600	68,8	270
Z10150 03/2C-6	36,2	874	258	1600	89,5	270
Z10150 03/2B-8	41,3	874	258	1600	89,8	270
Z10150 03/2A-8	44,4	874	258	1600	89,8	270
Z10150 03-8	46,9	874	258	1600	89,8	270
Z10150 04/2C-8	51,8	1090	258	1600	110,5	270
Z10150 04/2B-8	57,0	1090	258	1600	110,5	270
Z10150 04-8	62,6	1090	258	1600	110,5	270
Z10150 05/2C-8	67,4	1306	258	1600	131,2	270
Z10150 05/2B-8	72,6	1306	258	1600	131,2	270
Z10150 05-8	78,2	1306	258	1600	131,2	270
Z10150 06/2C-8	83,0	1522	258	1600	151,9	270
Z10150 06/1B-8	91,0	1522	258	1600	151,9	270
Z10150 06-10	93,8	1522	258	1600	156,8	270
Z10150 07/3B-10	101,1	1738	258	1600	177,5	270
Z10150 07/1B-10	106,7	1738	258	1600	177,5	270
Z10150 08/3B-10	116,7	1954	258	1600	198,2	270
Z10150 08-10	125,1	1954	258	1600	198,2	270
Z10150 09/3B-10	132,4	2170	258	1600	218,9	270
Z10150 09-10	140,8	2170	258	1600	218,9	270
Z10150 10-12	156,4	2386	271	1600	240,4	300
Z10150 11-12	172,0	2602	271	1600	261,1	300
Z10150 12-12	187,7	2818	271	1600	281,8	300

z10150p-50-en\_b\_td

## PUMPS MOTOR COUPLING

MOTOR CONNECTION	DIMENSIONS (mm)							
	N	k	d	z	b	E <sup>H7</sup>	R	I
6" (NEMA)	182	111,2	13,5	4	17	76,2	73	263
8" (NEMA)	182	152,4	18	4	17	127	101,45	263
10"	232	190,5	22	4	15	127	101,45	300
12"	232	190,5	22	4	15	127	126,85	300

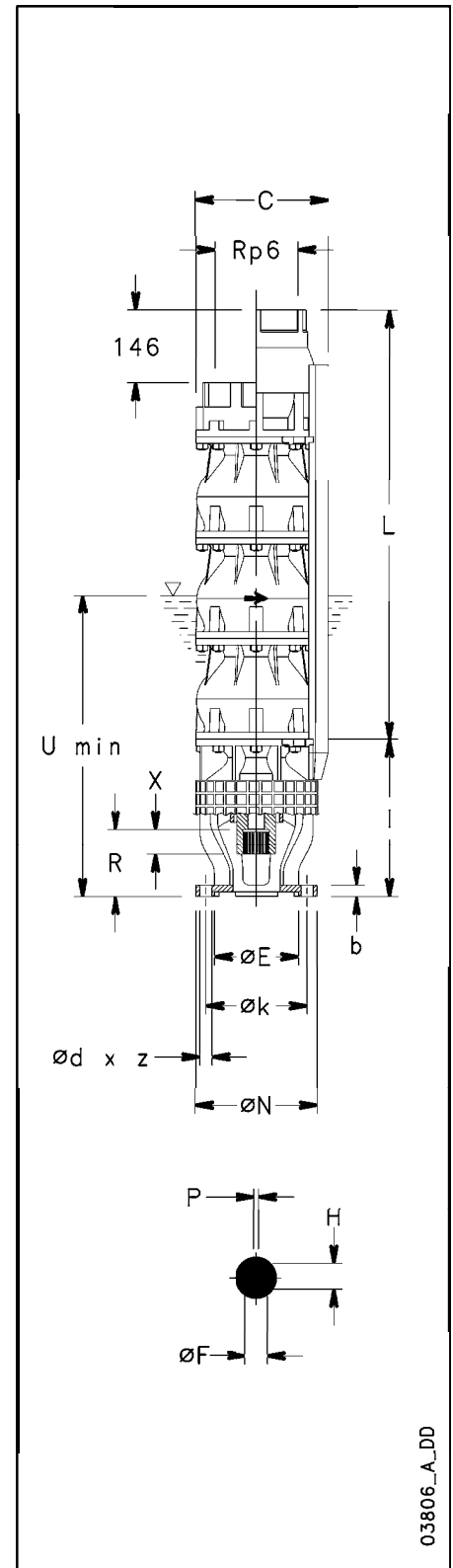
  

COUPLING	DIMENSIONS (mm)			
	Profile of gear coupling according to NEMA			
	NUMBER OF TEETH	DIAMETRAL PITCH	PRESSURE ANGLE	X
6" (NEMA)	15	16/32	30°	20
8" (NEMA)	23	16/32	30°	38

COUPLING	DIMENSIONS (mm)			
	F	H <sup>+0.1</sup>	P	X
10"	$42,85^{+0.084}_{+0.059}$	47,6	$9,5^{+0.05}_{+0.02}$	84
12"	49,212	54,5	12,7	95

z10-mcn-50-en\_b\_td

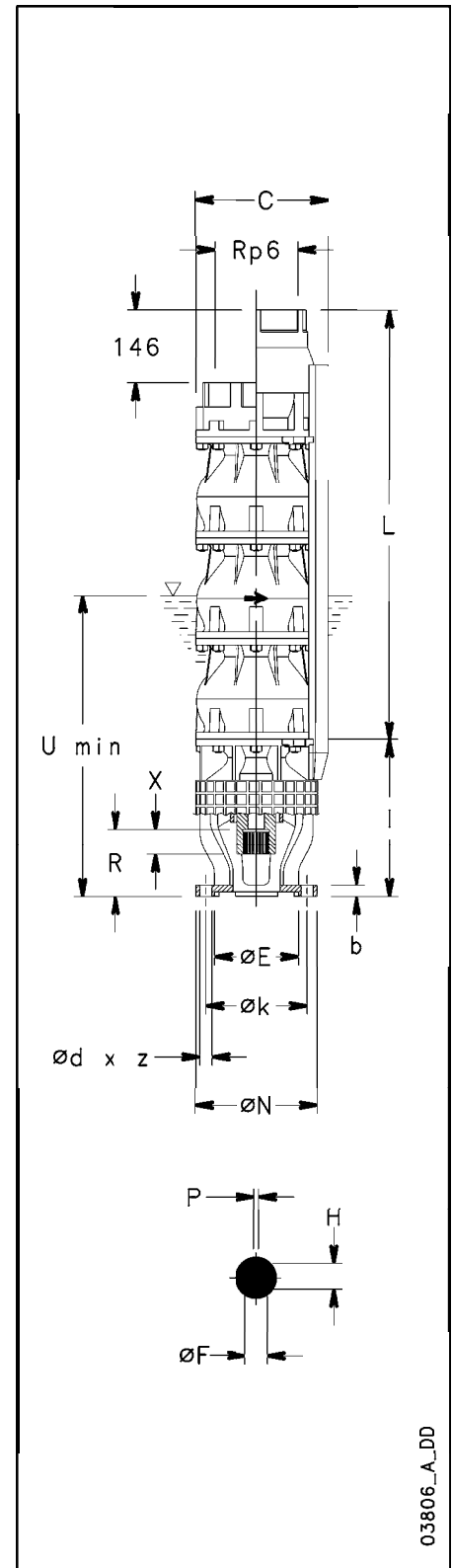


- 1) Max pump diameter with 2 motor cables included.
- 2) U min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.
- 3) Weight with non-return valve. For pumps without non-return valve, reduce by 8,3 Kg.
- 4) For pumps without non-return valve, reduce dimension L by 146 mm.

## Z10220 PUMP SERIES PUMPS DIMENSIONS AND WEIGHTS

PUMP TYPE	MAX POWER ABSORBED BY PUMP kW	DIMENSIONS (mm)			WEIGHT kg <sup>(3)</sup>	Ø MIN. WELL mm
		L <sup>(4)</sup>	C <sup>(1)</sup>	U <sup>(2)</sup>		
Z10220 01/1C-6	14,6	442	258	2900	47,3	270
Z10220 01/1B-6	18	442	258	2900	47,3	270
Z10220 01/1A-6	21,5	442	258	2900	47,3	270
Z10220 01-6	24	442	258	2900	47,3	270
Z10220 02/2C-6	29,2	658	258	2900	66,6	270
Z10220 02/2B-6	36	658	258	2900	66,6	270
Z10220 02/2A-8	43	658	258	2900	66,9	270
Z10220 02-8	48	658	258	2900	66,9	270
Z10220 03/2B-8	60	874	258	2900	86,2	270
Z10220 03/2A-8	67	874	258	2900	86,2	270
Z10220 03-8	72	874	258	2900	86,2	270
Z10220 04/2B-8	84	1090	258	2900	105,5	270
Z10220 04/2A-8	91	1090	258	2900	105,5	270
Z10220 04-10	96	1090	258	2900	110,4	270
Z10220 05/2B-10	108	1306	258	2900	129,7	270
Z10220 05-10	120	1306	258	2900	129,7	270
Z10220 06/2B-10	132	1522	258	2900	149	270
Z10220 06-10	144	1522	258	2900	149	270
Z10220 07/2B-12	156	1738	271	2900	169,1	300
Z10220 07-12	168	1738	271	2900	169,1	300
Z10220 08/2B-12	180	1954	271	2900	188,4	300
Z10220 08-12	192	1954	271	2900	188,4	300
Z10220 09/2B-12	204	2170	271	2900	207,7	300
Z10220 09/1A-12	213,5	2170	271	2900	207,7	300
Z10220 10/2B-12	228	2386	271	2900	227	300
Z10220 10-12	240	2386	271	2900	227	300
Z10220 11/2B-12	252	2602	271	2900	246,3	300
Z10220 11-12	264	2602	271	2900	246,3	300
Z10220 12/2B-12	276	2818	271	2900	265,6	300
Z10220 12-12	288	2818	271	2900	265,6	300

z10220p-50-en\_b\_td



z10-mtcn-50-en\_b\_td

## PUMPS MOTOR COUPLING

MOTOR CONNECTION	DIMENSIONS (mm)							
	N	k	d	z	b	E <sup>H7</sup>	R	I
6" (NEMA)	182	111,2	13,5	4	17	76,2	73	263
8" (NEMA)	182	152,4	18	4	17	127	101,45	263
10"	232	190,5	22	4	15	127	101,45	300
12"	232	190,5	22	4	15	127	126,85	300

COUPLING	DIMENSIONS (mm)			
	Profile of gear coupling according to NEMA			
	NUMBER OF TEETH	DIAMETRAL PITCH	PRESSURE ANGLE	X
6" (NEMA)	15	16/32	30°	20
8" (NEMA)	23	16/32	30°	38

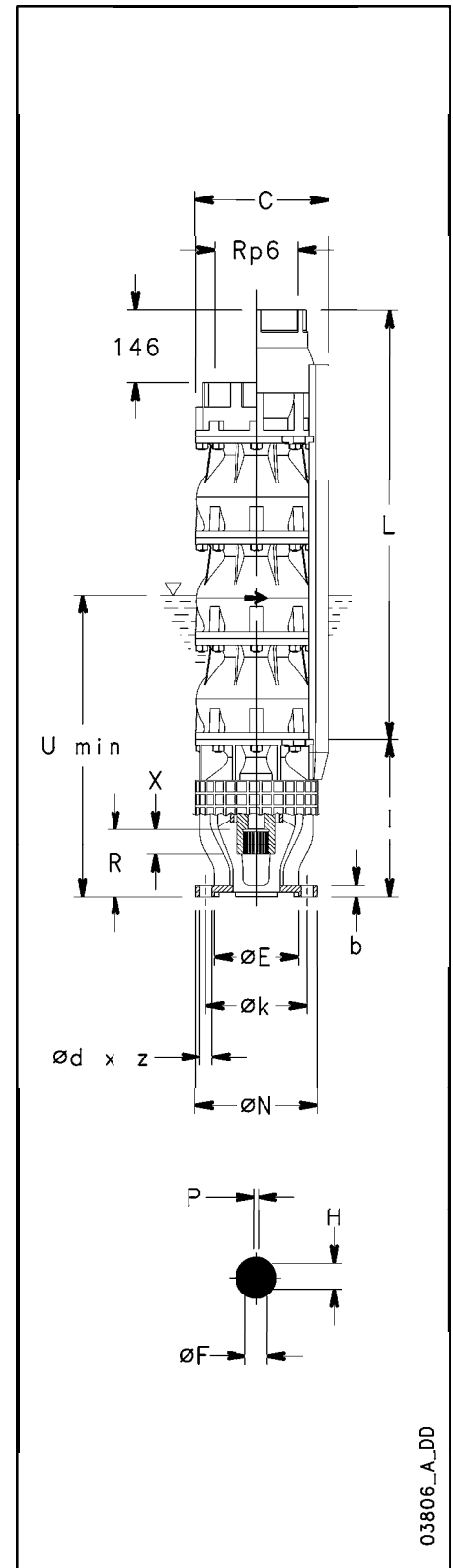
COUPLING	DIMENSIONS (mm)			
	F <sup>+0.084 +0.059</sup>	H <sup>+0.1</sup>	P <sup>+0.05 +0.02</sup>	X
10"	42,85	47,6	9,5	84
12"	49,212	54,5	12,7	95

- 1) Max pump diameter with 2 motor cables included.
- 2) U min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.
- 3) Weight with non-return valve. For pumps without non-return valve, reduce by 8,3 Kg.
- 4) For pumps without non-return valve, reduce dimension L by 146 mm.

## Z10275 PUMP SERIES PUMPS DIMENSIONS AND WEIGHTS

PUMP TYPE	MAX POWER ABSORBED BY PUMP kW	DIMENSIONS (mm)			WEIGHT kg <sup>(3)</sup>	Ø MIN. WELL mm
		L <sup>(4)</sup>	C <sup>(1)</sup>	U <sup>(2)</sup>		
Z10275 01/1B-6	17,3	442	258	2900	47,4	270
Z10275 01/1A-6	21,9	442	258	2900	47,4	270
Z10275 01-6	26,9	442	258	2900	47,4	270
Z10275 02/2B-6	34,6	658	258	2900	66,9	270
Z10275 02/2A-8	43,8	658	258	2900	67,2	270
Z10275 02-8	53,8	658	258	2900	67,2	270
Z10275 03/2B-8	61,5	874	258	2900	86,7	270
Z10275 03/3A-8	65,7	874	258	2900	86,7	270
Z10275 03/1A-8	75,7	874	258	2900	86,7	270
Z10275 03-8	80,7	874	258	2900	86,7	270
Z10275 04/3A-8	92,6	1090	258	2900	106,2	270
Z10275 04/2A-10	97,6	1090	258	2900	111,1	270
Z10275 04-10	107,6	1090	258	2900	111,1	270
Z10275 05/3A-10	119,5	1306	258	2900	130,6	270
Z10275 05-10	134,5	1306	258	2900	130,6	270
Z10275 06/3A-10	146,4	1522	258	2900	150,1	270
Z10275 06-12	161,4	1522	271	2900	150,1	300
Z10275 07/2A-12	178,3	1738	271	2900	170,4	300
Z10275 07-12	188,3	1738	271	2900	170,4	300
Z10275 08/2B-12	196,0	1954	271	2900	189,9	300
Z10275 08/1A-12	210,2	1954	271	2900	189,9	300
Z10275 09/3A-12	227,1	2170	271	2900	209,4	300
Z10275 09-12	242,1	2170	271	2900	209,4	300
Z10275 10/3A-12	254,0	2386	271	2900	228,9	300
Z10275 10-12	269,0	2386	271	2900	228,9	300
Z10275 11/1A-12	290,9	2602	271	2900	248,4	300

z10275p-50-en\_b\_td



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## PUMPS MOTOR COUPLING

MOTOR CONNECTION	DIMENSIONS (mm)							
	N	k	d	z	b	E <sup>H7</sup>	R	I
6" (NEMA)	182	111,2	13,5	4	17	76,2	73	263
8" (NEMA)	182	152,4	18	4	17	127	101,45	263
10"	232	190,5	22	4	15	127	101,45	300
12"	232	190,5	22	4	15	127	126,85	300

COUPLING	DIMENSIONS (mm)			
	Profile of gear coupling according to NEMA			
	NUMBER OF TEETH	DIAMETRAL PITCH	PRESSURE ANGLE	X
6" (NEMA)	15	16/32	30°	20
8" (NEMA)	23	16/32	30°	38

COUPLING	DIMENSIONS (mm)			
	F <sup>+0.084 +0.059</sup>	H <sup>+0.1</sup>	P <sup>+0.05 +0.02</sup>	X
10"	42,85	47,6	9,5	84
12"	49,212	54,5	12,7	95

z10-mtcn-50-en\_b\_td

- 1) Max pump diameter with 2 motor cables included.
- 2) U min valid only for max flow speed of 4,5 m/s between pump and perforation pipe.
- 3) Weight with non-return valve. For pumps without non-return valve, reduce by 8,8 Kg.
- 4) For pumps without non-return valve, reduce dimension L by 146 mm.



## 12" Submersible Electric Pumps

### Z12340 Z12420 Series

#### MARKET SECTORS

AGRICULTURE, INDUSTRY, MUNICIPAL.

#### APPLICATIONS

- Water supply from deep wells.
- Pressure boosting and water distribution
- Supply of surge tanks and reservoirs.
- Firefighting and washing systems.
- Water table level control.
- Irrigation.
- Mines.



#### SPECIFICATIONS

- **Delivery:** up to 520 m<sup>3</sup>/h.
- **Head:** up to 455 m.
- **Maximum pump overall diameter (2 cable covers included):** 302 mm for all versions.
- **Maximum electric pump immersion depth:** 350 m.
- **Maximum permissible quantity of suspended sand:** 100 g/m<sup>3</sup>.
- **Standard delivery outlet:** 8" NPT (according to API) for all versions.
- **Motor power:** from 30 to 350 kW
- **Construction materials available:** AISI304 and AISI316 stainless steel (Z12), DUPLEX stainless steel (ZR12).
- **Horizontal installation possible (it is recommended to have an incline of at least 3° with the motor on the lowest position).**

#### CONSTRUCTION FEATURES

- Electric pumps sturdy and lightweight, easy maintenance and resistant to corrosion in non-aggressive environments.
- **Impellers and diffusers** made of microcast stainless steel.
- **Delivery casting** made of microcast stainless steel.
- **Non-return valve** made of stainless steel stainless steel, with integrated spring.
- **Suction support** made of microcast stainless steel.
- **Shaft** made of stainless steel.
- **Coupling and flange mounting** according to NEMA standard for 8" motor, with key connection for 10" and 12" motor.

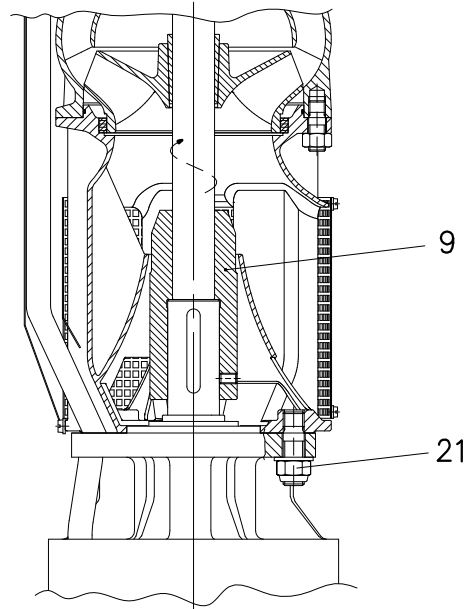
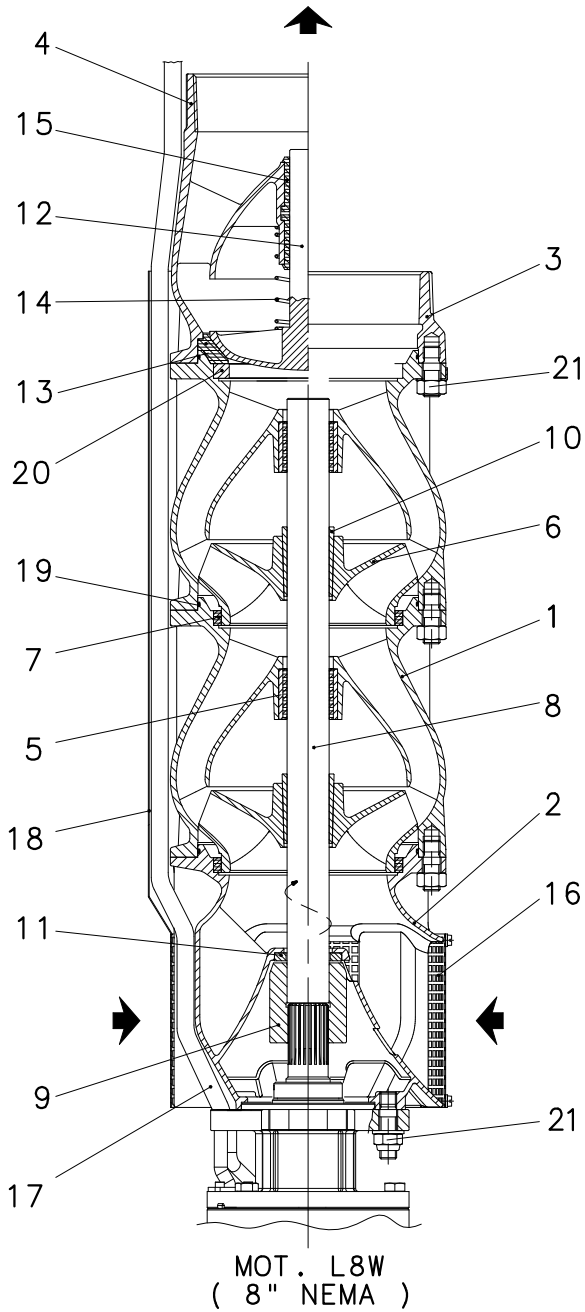
#### OPTIONAL FEATURES

- Customized impeller versions.

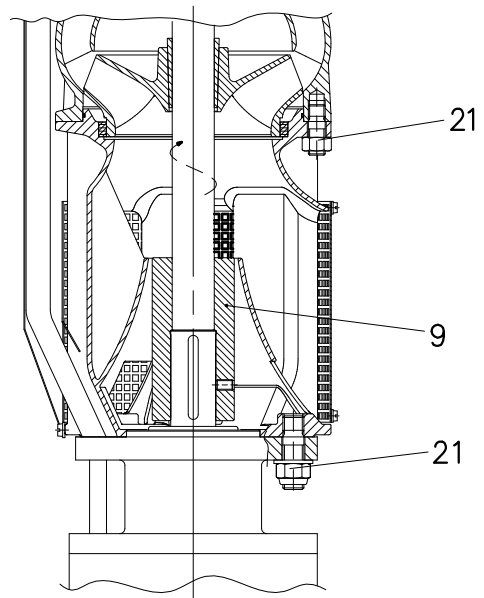
#### ACCESSORIES

- Coupling flanges.
- Control panels.
- Drop cables.
- Temperature sensor **PT 100 / PTC**.
- Cable joints
- Cooling shrouds.

**Z12 SERIES  
PUMP CROSS SECTION AND LIST OF COMPONENTS**



MOT . L12W



MOT . L10W

03821\_B\_DS

## TABLE OF MATERIALS Z12

REF. N°	COMPONENT	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Diffuser	Acciaio inox	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
2	Lower support / Suction Casing	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
3	Delivery head	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
4	Valve Casing	Acciaio inox	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
5	Bearing bush	EPDM + Lubricant		
6	Impeller	Stainless steel	EN 10213-GX5CrNi19-11 (1.4308)	A744-CF 8
7	Wear ring	Tecnopolymer POM-C		
8	Pump shaft	Stainless steel	EN 10088-1-X17CrNi16-2 (1.4057)	AISI 431
9	Coupling	Stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
10	Taperlock	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
11	Thrust Bearing	PTFE + 25% carbon		
12	Valve	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	A744-CF 8
13	Valve seal	NBR 90		
14	Valve spring	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
15	Wing valve			
16	Suction strainer	Stainless steel	DIN 17440-X6CrNiMoTi17-12-2 (1.4517)	AISI 316Ti
17	Motor cable			
18	Cable protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
19	Diffuser O-Ring	NBR 70		
20	Intermediate ring			
21	Screw, stud, nut	Stainless steel	ISO 3506-1/2 A4-70	AISI 316

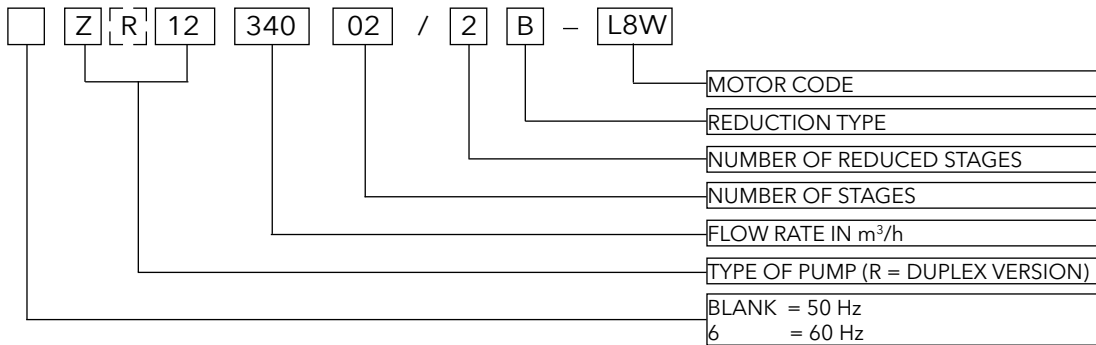
z12-2p50-en\_d\_tm

## TABLE OF MATERIALS ZR12

REF. N°	COMPONENT	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Diffuser	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
2	Lower support / Suction Casing	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
3	Delivery head	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
4	Valve Casing	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
5	Bearing bush	EPDM + Lubricant		
6	Impeller	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
7	Wear ring	Tecnopolimery POM-C		
8	Pump shaft	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Coupling	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
10	Taperlock	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
11	Thrust Bearing	PTFE + 25% carbon		
12	Valve	Duplex stainless steel	EN 10213-GX2CrNiMoCuN25-6-3-3 (1.4517)	
13	Valve seal	NBR 90		
14	Valve spring	Hastelloy C4	DIN17744-NiMo16Cr16Ti (2.4610)	N06455
15	Wing valve			
16	Suction strainer	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
17	Motor cable			
18	Cable protection	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
19	Diffuser O-Ring	NBR 70		
20	Intermediate ring			
21	Screw, stud, nut	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803

zr12-2p50-en\_c\_tm

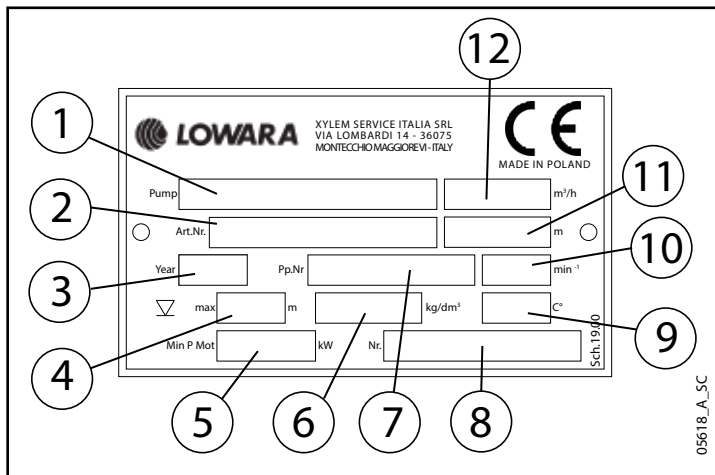
## Z12-ZR12 SERIES IDENTIFICATION CODES



EXAMPLE : ZR12 340 02/2B - L8W

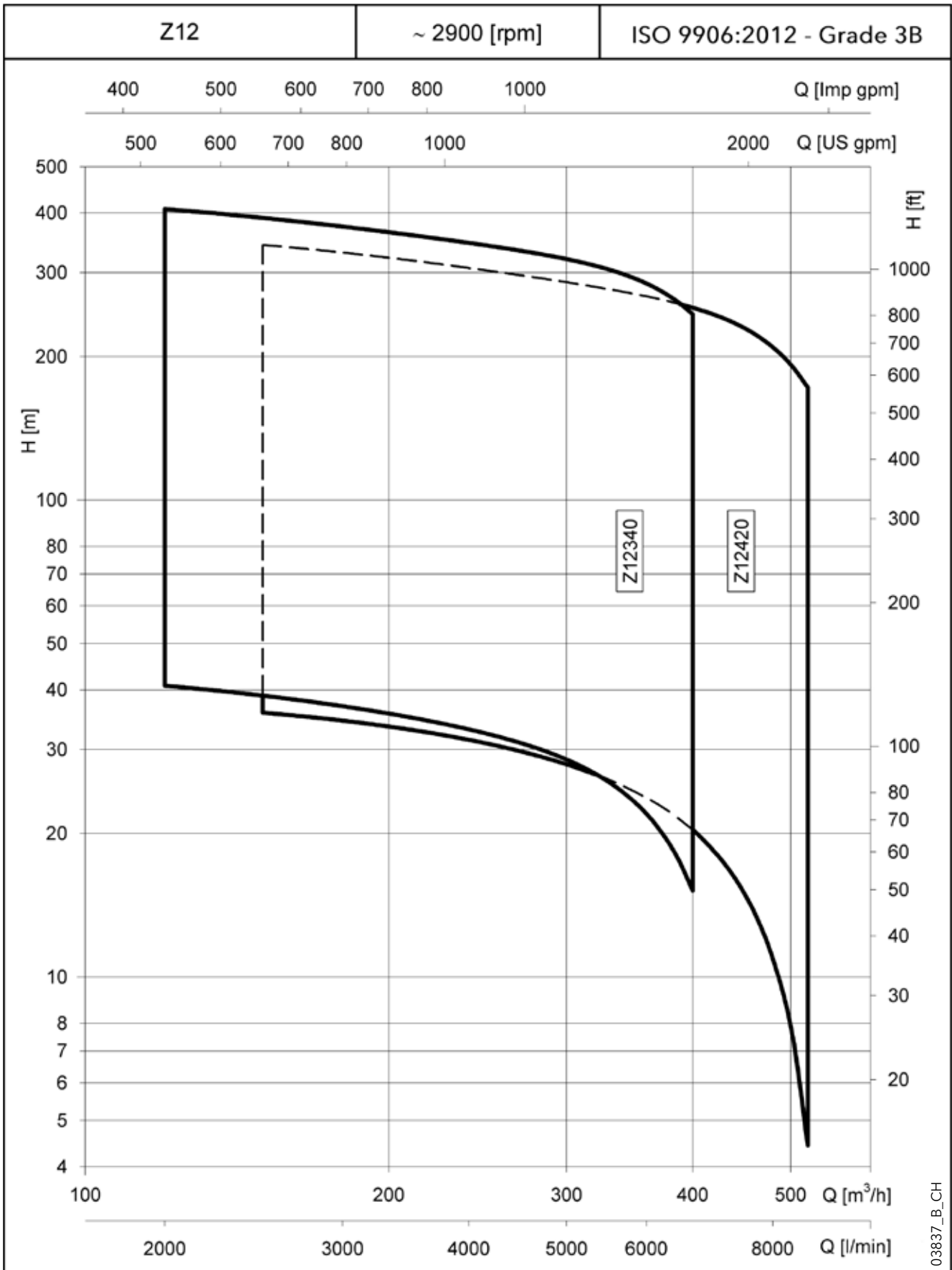
12" electric pump, 50 Hz, made of DUPLEX, flow rate 340 m<sup>3</sup>/h, 2 stages including 2 reduced ones, coupled to an 8" L8W motor.

## Z12-ZR12 SERIES RATING PLATE



### LEGEND

- 1 - Pump type
- 2 - Article code of the pump
- 3 - Year of production
- 4 - Max. immersion depth
- 5 - Min. required motor power
- 6 - Density of medium
- 7 - Data set entry for additional identification
- 8 - Serial number
- 9 - Max. water temperature
- 10 - Speed
- 11 - Head
- 12 - Nominal flow

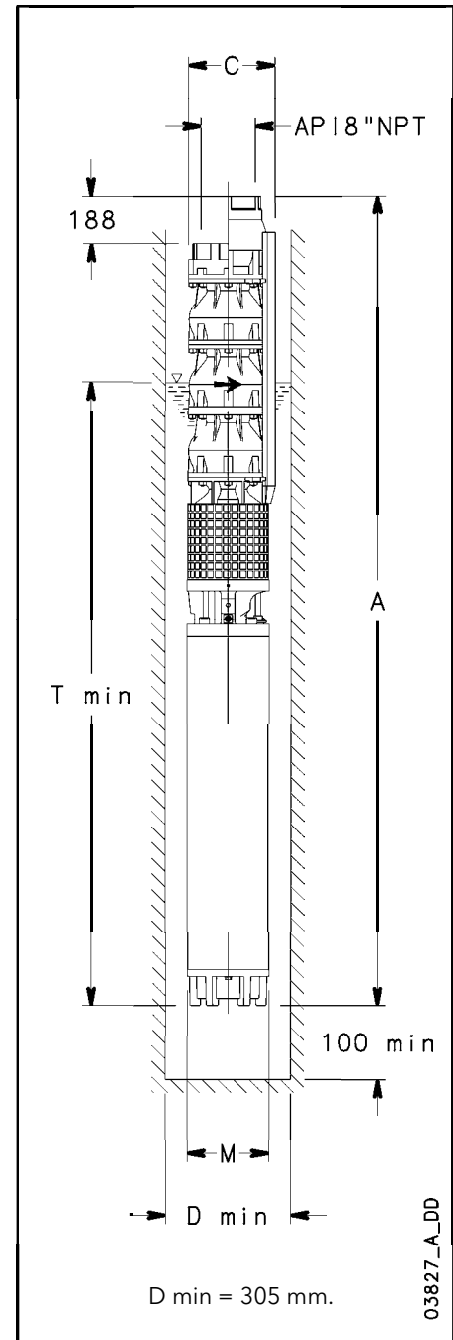
**Z12 SERIES  
ELECTROPUMPS HYDRAULIC PERFORMANCE RANGE**


03837\_B.CH

## Z12340 SERIES, 1 TO 2 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	2000	3333	4667	5667	6667
		m <sup>3</sup> /h	0	120	200	280	340	400
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z12340 01/1B	30	45,5	41,1	35,5	30,1	24,5	15,2	
Z12340 01/1A	37	50,0	44,8	39,6	34,8	29,7	21,1	
Z12340 01	45	55,4	49,8	44,7	40,0	36,2	28,9	
Z12340 02/2C	52	82,7	75,6	63,8	52,2	39,2	20,0	
Z12340 02/2B	60	90,3	81,5	70,5	60,1	48,4	29,1	
Z12340 02/2A	75	100,6	90,3	79,8	70,1	60,1	43,0	
Z12340 02	93	110,7	99,6	89,3	79,9	72,5	57,8	

z12340-2p50-1-en\_a\_th



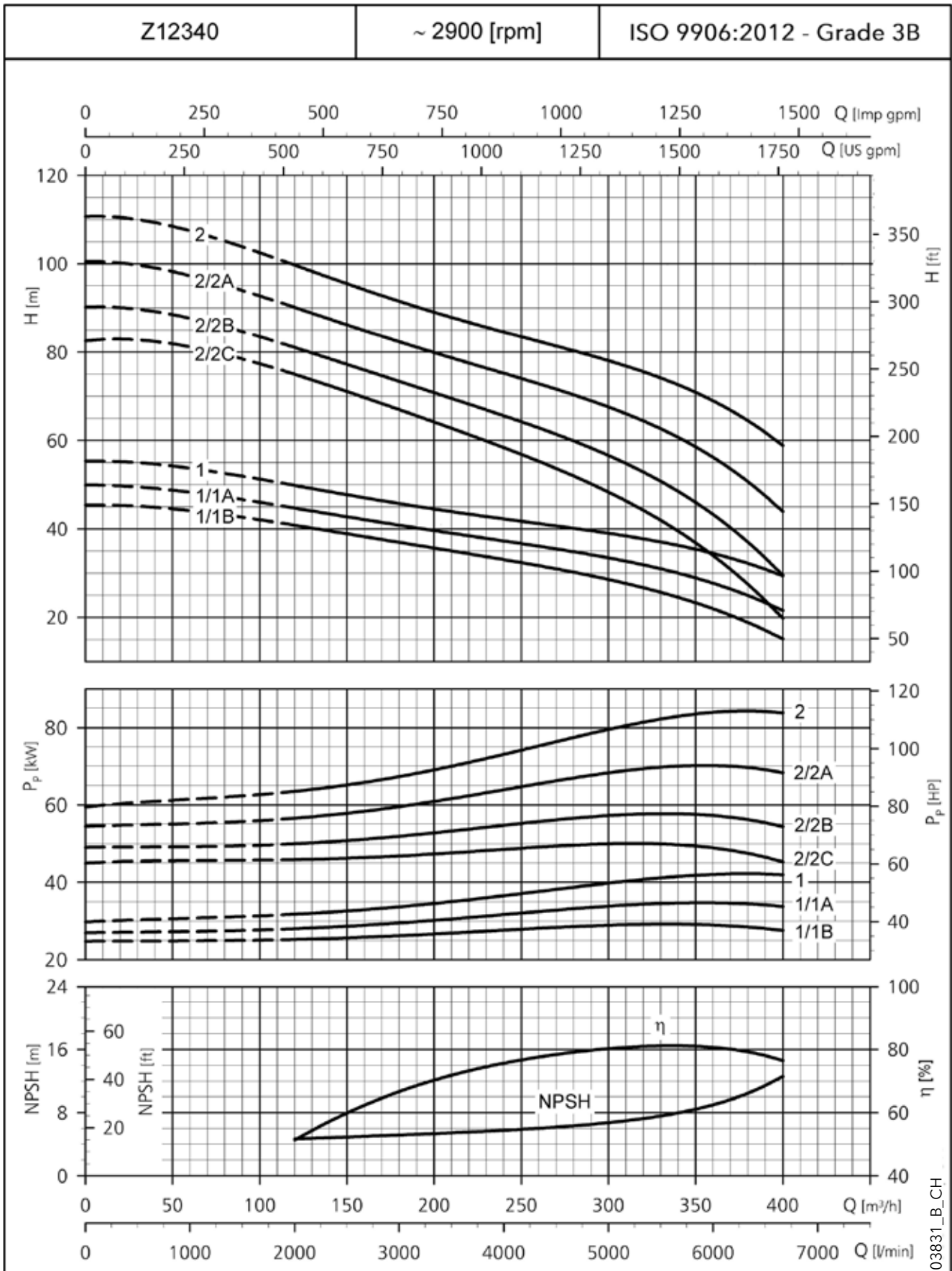
## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z12340 01/1B-L8W	30	1725	290	192	3875	217
Z12340 01/1A-L8W	37	1805	290	192	4355	234
Z12340 01-L8W	45	1885	290	192	4035	252
Z12340 02/2C-L8W	52	2200	290	192	4115	300
Z12340 02/2B-L8W	60	2280	290	192	4195	317
Z12340 02/2A-L8W	75	2440	290	192	4355	352
Z12340 02-L8W	93	2640	290	192	4555	390

z12340-2p50-1-en\_a\_td

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 285 mm with L8W motor.
- 2) T min valid only for max flow speed of 6,8 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 188 mm, and reduce weight by 16,7 Kg.

### Z12340 SERIES, 1 TO 2 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



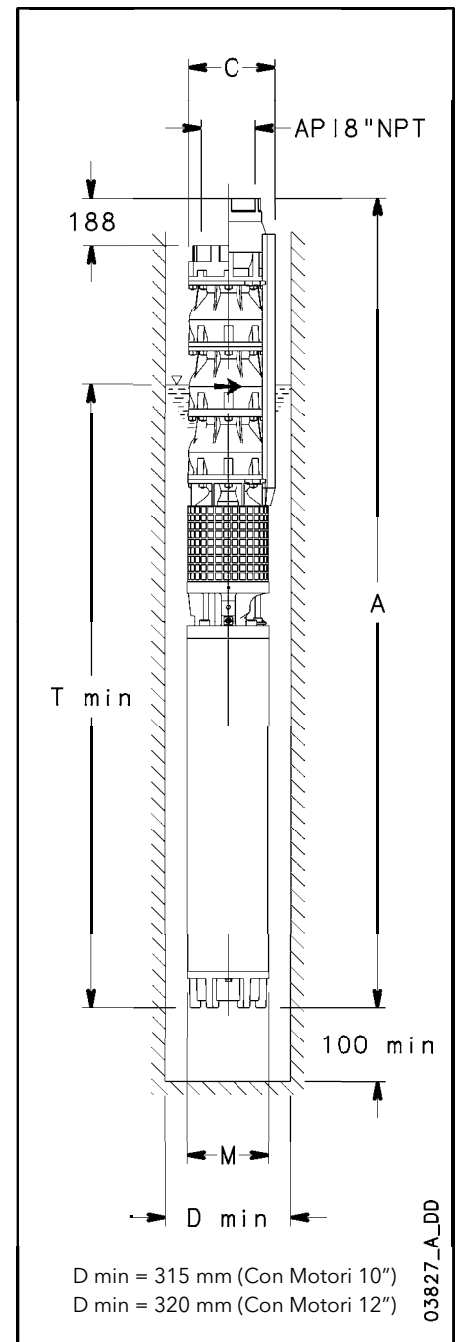
03831\_B\_CH

These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z12340 SERIES, 3 TO 4 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	2000	3333	4667	5667	6667
		m <sup>3</sup> /h	0	120	200	280	340	400
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z12340 03/2C	110	137	124	107	91	74	49	
Z12340 03/3A	110	153	137	122	107	92	67	
Z12340 03/1A	130	163	147	131	117	104	81	
Z12340 03	150	169	153	137	122	112	90	
Z12340 04/2B	150	204	185	163	143	125	92	
Z12340 04/2A	185	214	194	172	153	135	104	
Z12340 04	185	225	202	182	162	148	119	

z12340-2p50-2-en\_a\_th



z12340-2p50-2-en\_a\_td

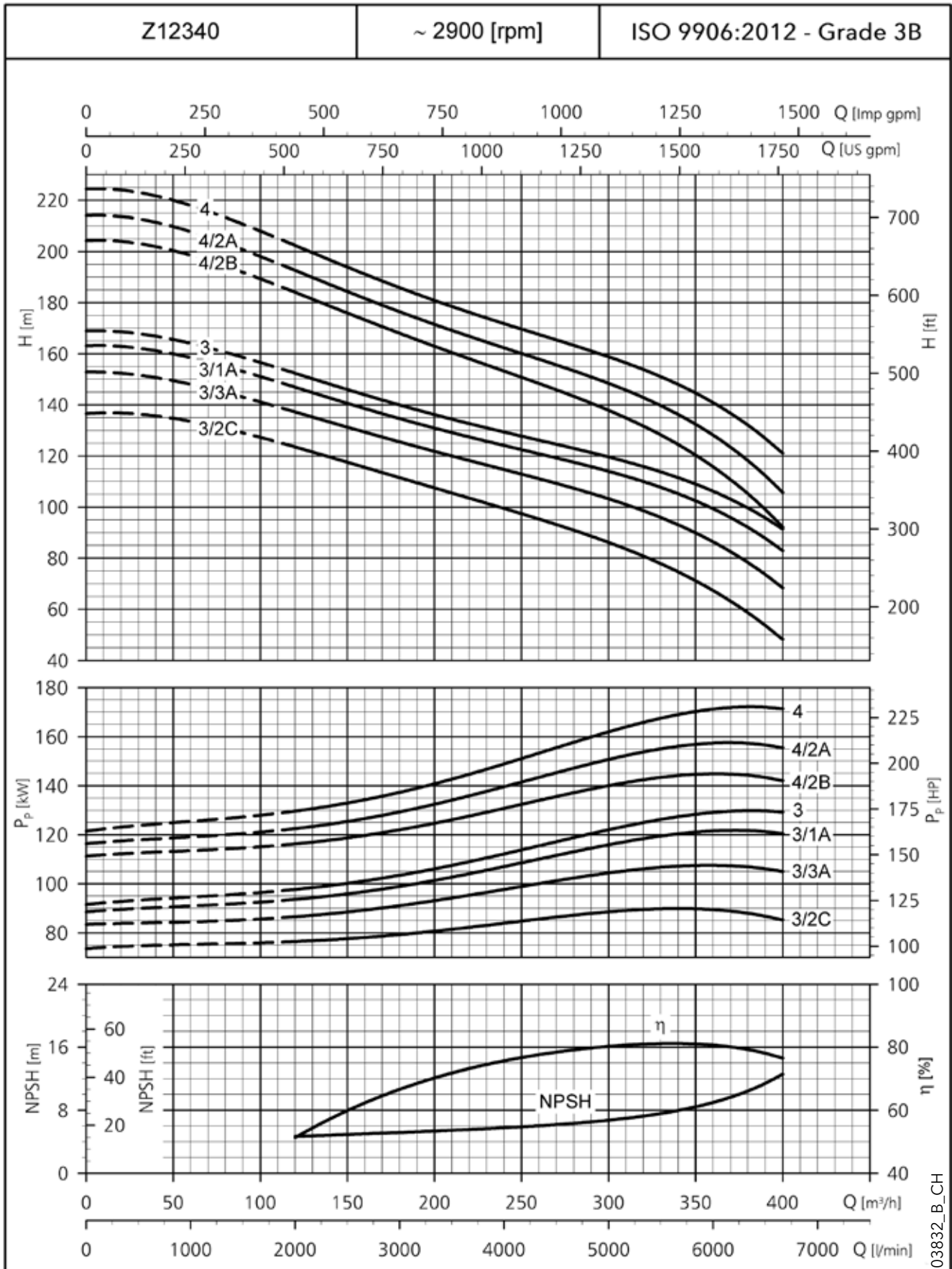
## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z12340 03/2C-L10W	110	2982	302	236	4602	531
Z12340 03/3A-L10W	110	2982	302	236	4602	531
Z12340 03/1A-L10W	130	3132	302	236	4752	578
Z12340 03-L10W	150	3262	302	236	4882	617
Z12340 04/2B-L10W	150	3497	302	236	4882	644
Z12340 04/2A-L12W	185	3254	306	276	4639	710
Z12340 04-L12W	185	3254	306	276	4639	710

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 293 mm with L10W motor.  
C = 300 mm with L12W motor.
- 2) T min valid only for max flow speed of 6,8 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 188 mm, and reduce weight by 16,7 Kg.



**Z12340 SERIES, 3 TO 4 STAGES  
ELECTROPUMPS OPERATING CHARACTERISTICS**



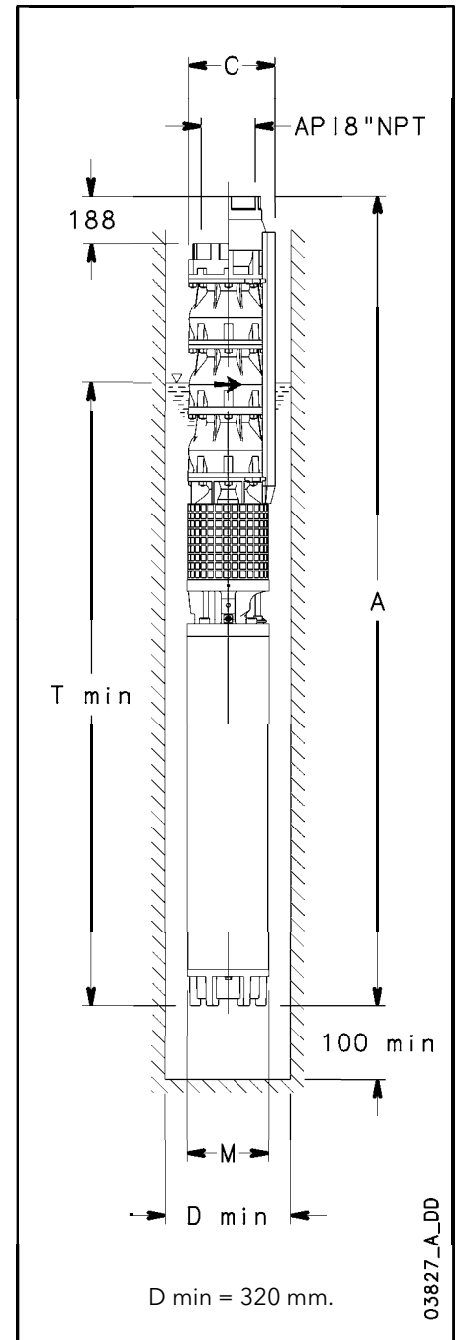
03832\_B\_CH

These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z12340 SERIES, 5 TO 8 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	2000	3333	4667	5667	6667
		m <sup>3</sup> /h	0	120	200	280	340	400
		H = TOTAL HEAD METRES COLUMN OF WATER						
Z12340 05/2B	220	262	237	210	185	163	124	
Z12340 05/2A	220	272	245	219	195	174	135	
Z12340 05	220	283	255	229	205	187	152	
Z12340 06/2B	260	319	288	256	226	201	155	
Z12340 06/2A	260	329	297	265	236	211	165	
Z12340 06	260	339	306	274	246	224	182	
Z12340 07/3A	300	379	341	304	271	241	187	
Z12340 07	300	396	357	320	286	262	212	
Z12340 08/3A	350	437	393	351	313	279	218	
Z12340 08	350	452	408	366	327	299	242	

z12340-2p50-3-en\_a\_th



03827\_A\_DD

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

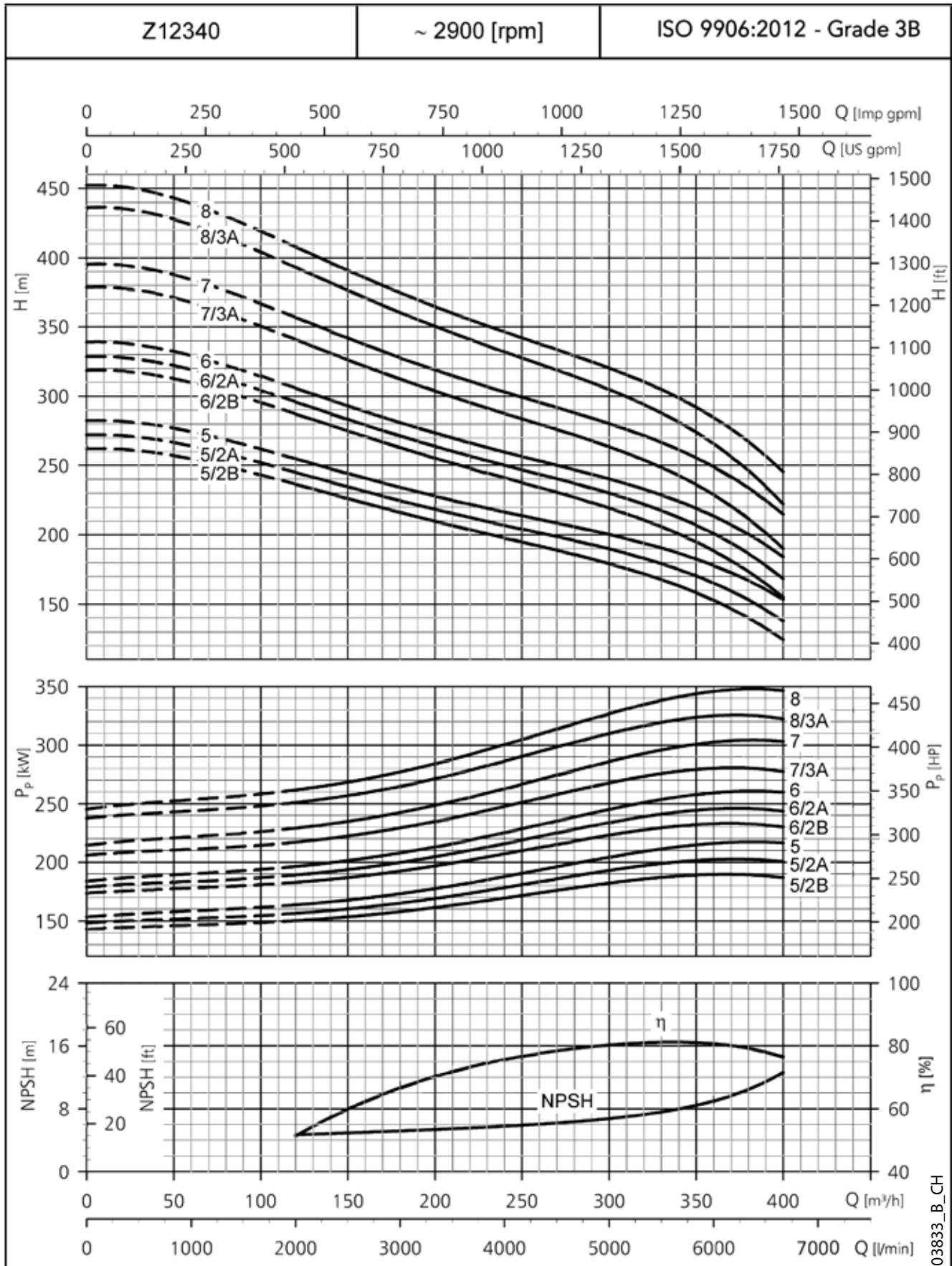
ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
		kg (3)				
Z12340 05/2B-L12W	220	3639	306	276	4789	801
Z12340 05/2A-L12W	220	3639	306	276	4789	801
Z12340 05-L12W	220	3639	306	276	4789	801
Z12340 06/2B-L12W	260	4024	306	276	4939	893
Z12340 06/2A-L12W	260	4024	306	276	4939	893
Z12340 06-L12W	260	4024	306	276	4939	893
Z12340 07/3A-L12W	300	4409	306	276	5089	985
Z12340 07-L12W	300	4409	306	276	5089	985
Z12340 08/3A-**	350	-	-	-	-	-
Z12340 08-**	350	-	-	-	-	-

\*\* For power above 350 kW please contact our sales network.

z12340-2p50-3-en\_a\_th

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 300 mm with L12W motor.
- 2) T min valid only for max flow speed of 6,8 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 188 mm, and reduce weight by 16,7 Kg.

### Z12340 SERIES, 5 TO 8 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

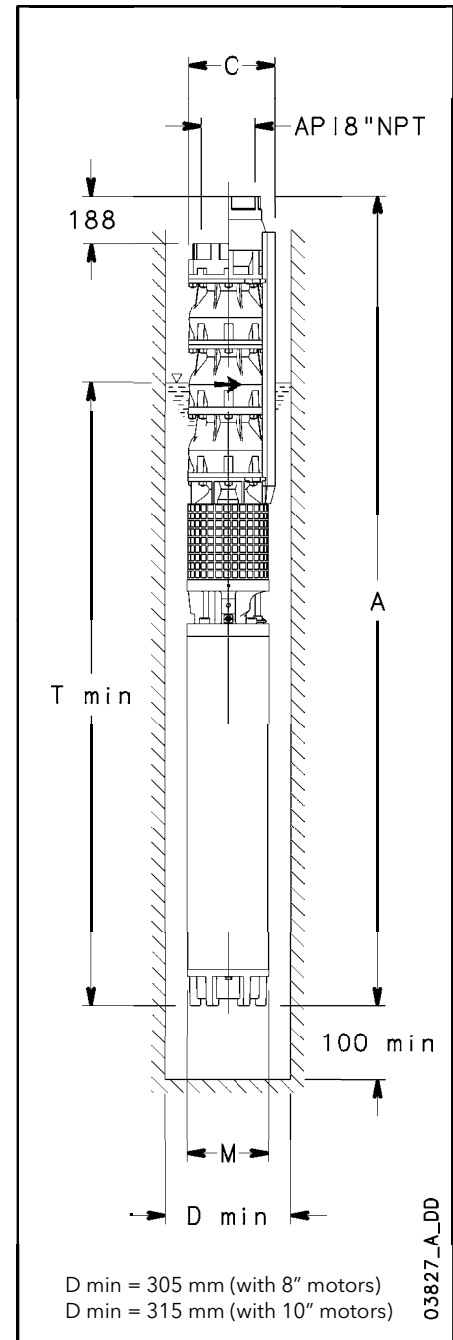


These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z12420 SERIES, 1 TO 2 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	2500	4167	5833	7000	8667
		m <sup>3</sup> /h	0	150	250	350	420	520
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z12420 01/1C	30	38,8	36,1	31	25	18		
Z12420 01/1B	37	44,1	40,1	35,1	29,6	25	12	
Z12420 01/1A	45	49,3	45,0	39,6	34,4	30,5	18,8	
Z12420 01	52	52,2	47,7	42,3	37,0	33,9	22,3	
Z12420 02/2C	60	77,1	71,7	61,0	48,9	36,0		
Z12420 02/2B	75	88,7	80,8	70,8	59,7	49,7	24,0	
Z12420 02/2A	93	99,3	90,7	79,9	69,3	61,6	39	
Z12420 02	110	106,5	97,6	86,6	75,9	69,9	47,3	

z12420-2p50-1-en\_a\_th

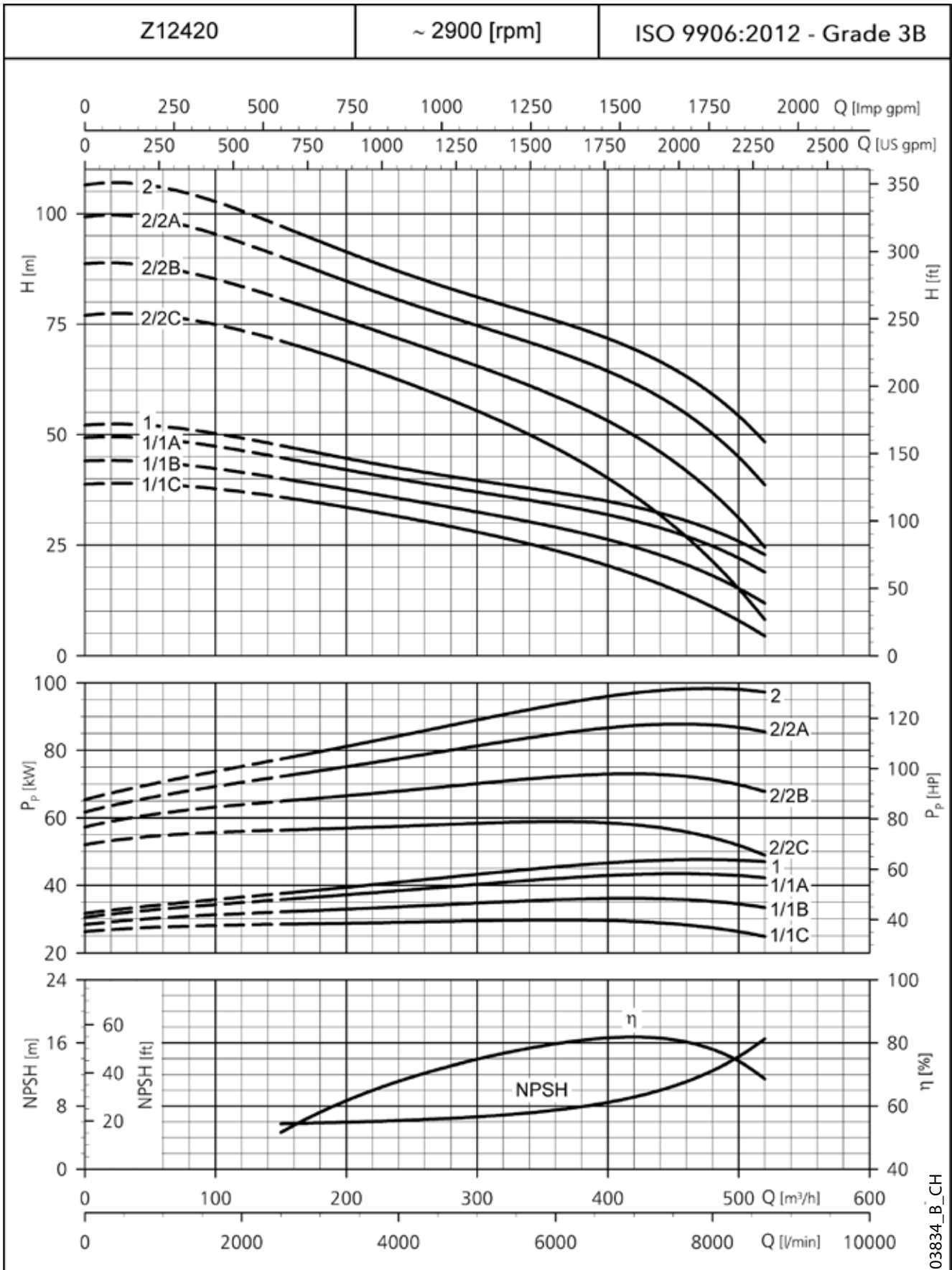


z12420-2p50-1-en\_b\_td

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
Z12420 01/1C-L8W	30	1725	290	192	3875	217
Z12420 01/1B-L8W	37	1805	290	192	3955	234
Z12420 01/1A-L8W	45	1885	290	192	4035	252
Z12420 01-L8W	52	1965	290	192	4115	272
Z12420 02/2C-L8W	60	2280	290	192	4195	317
Z12420 02/2B-L8W	75	2440	290	192	4355	352
Z12420 02/2A-L8W	93	2640	290	192	4555	390
Z12420 02-L10W	110	2747	302	236	4602	504

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 285 mm with L8W motor.  
C = 293 mm with L10W motor.
- 2) T min valid only for max flow speed of 6,8 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 188 mm, and reduce weight by 16,7 Kg.

**Z12420 SERIES, 1 TO 2 STAGES  
ELECTROPUMPS OPERATING CHARACTERISTICS**


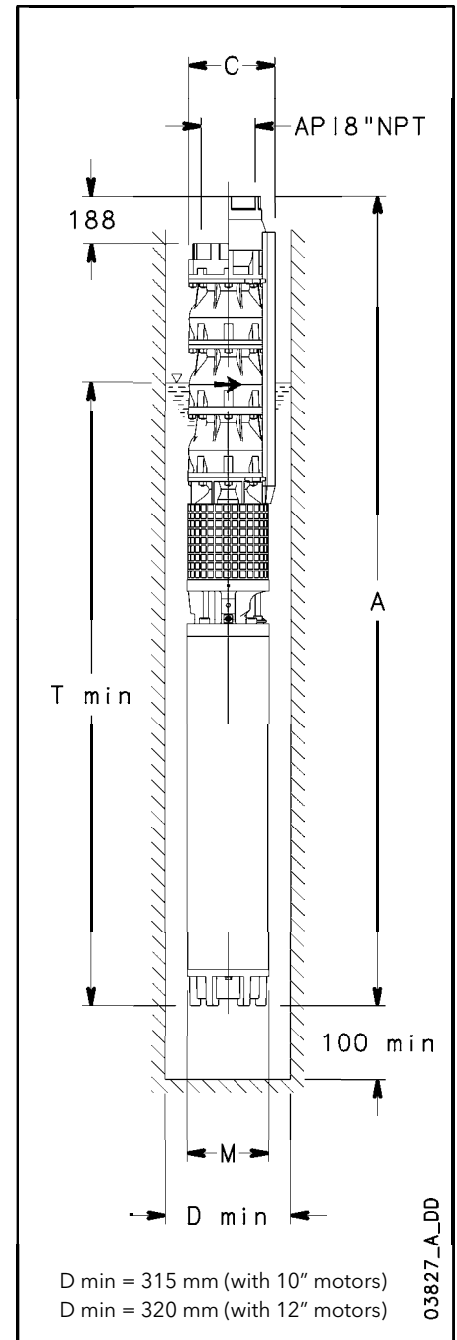
03834\_B\_CH

 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z12420 SERIES, 3 TO 4 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	2500	4167	5833	7000	8667
		m <sup>3</sup> /h	0	150	250	350	420	520
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z12420 03/2C	110	132	122	106	89	72	36	
Z12420 03/2B	130	143	132	115	99	85	50	
Z12420 03/3A	150	151	138	122	106	94	60	
Z12420 03	150	160	146	130	114	104	71	
Z12420 04/3B	185	188	173	151	129	111	64	
Z12420 04/3A	185	204	187	165	144	129	84	
Z12420 04	220	215	197	175	154	131	97	

z12420-2p50-2-en\_a\_th

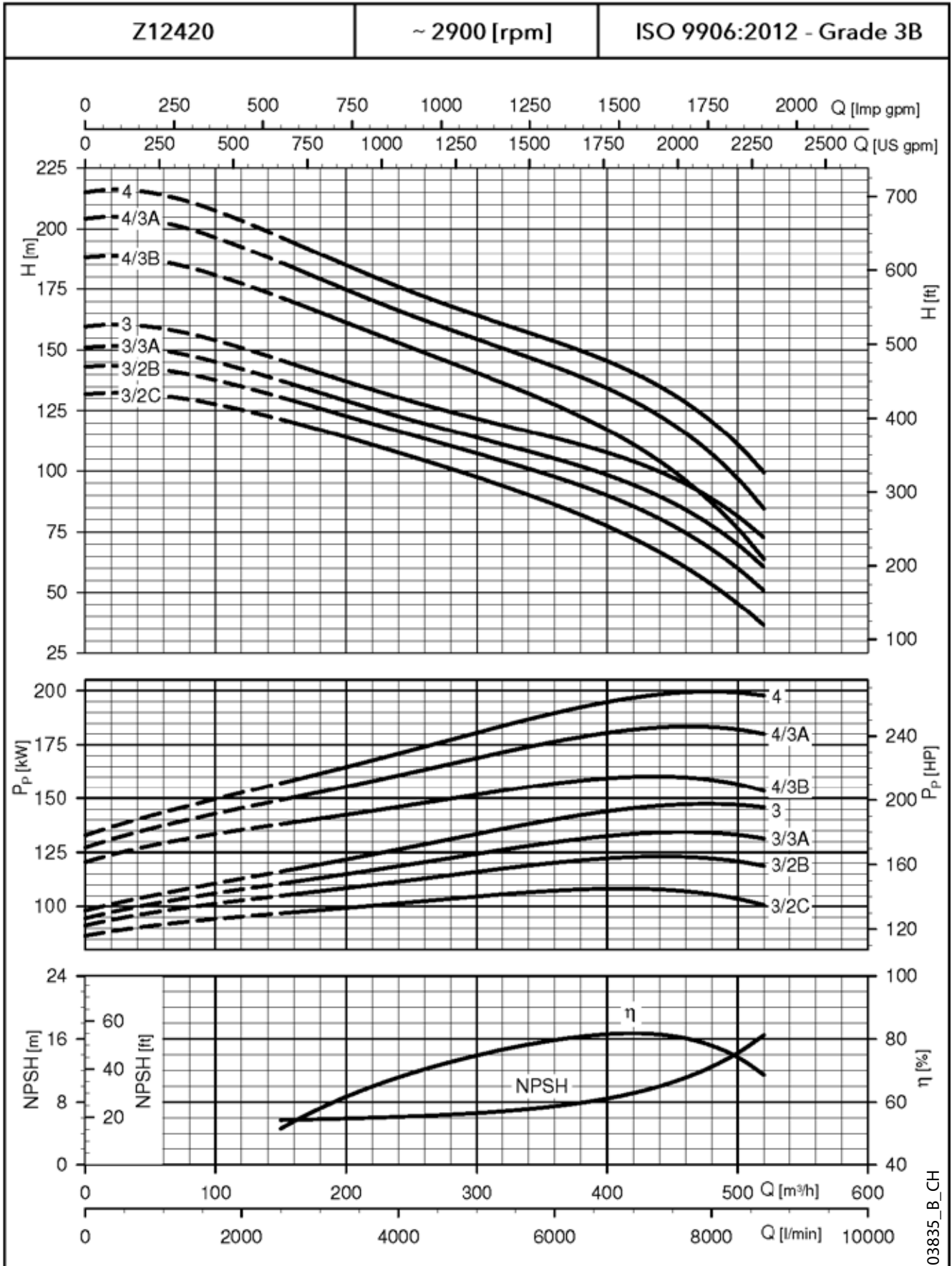


z12420-2p50-2-en\_a\_td

## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z12420 03/2C-L10W	110	2982	302	236	4602	531
Z12420 03/2B-L10W	130	3132	302	236	4752	577
Z12420 03/3A-L10W	150	3262	302	236	4882	617
Z12420 03-L10W	150	3262	302	236	4882	617
Z12420 04/3B-L12W	185	3254	306	276	4639	710
Z12420 04/3A-L12W	185	3254	306	276	4639	710
Z12420 04-L12W	220	3404	306	276	4789	774

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 293 mm with L10W motor.  
C = 300 mm with L12W motor.
- 2) T min valid only for max flow speed of 6,8 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 188 mm, and reduce weight by 16,7 Kg.

**Z12420 SERIES, 3 TO 4 STAGES  
ELECTROPUMPS OPERATING CHARACTERISTICS**


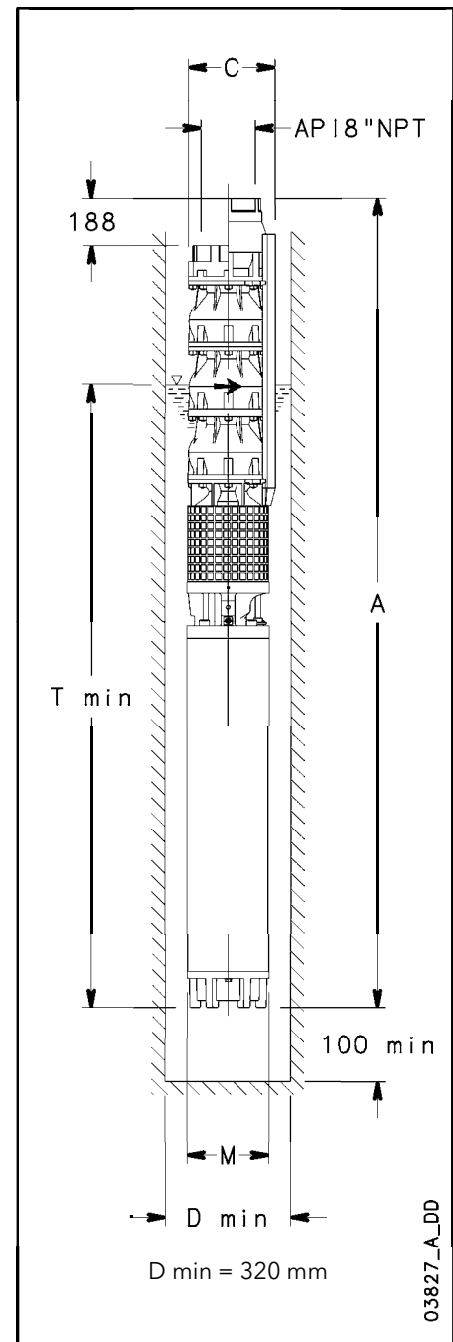
03835\_B\_CH

 These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z12420 SERIES, 5 TO 7 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS

PUMP TYPE	RATED POWER	Q = DELIVERY						
		l/min	0	2500	4167	5833	7000	8667
		m <sup>3</sup> /h	0	150	250	350	420	520
	kW	H = TOTAL HEAD METRES COLUMN OF WATER						
Z12420 05/2B	260	251	231	203	177	156	102	
Z12420 05	260	268	246	218	191	174	121	
Z12420 06/2B	300	305	280	247	215	191	128	
Z12420 06	300	321	294	261	229	208	143	
Z12420 07/2B	350	359	329	291	254	226	152	
Z12420 07	350	375	344	306	268	244	169	

z12420-2p50-3-en\_a\_th



## ELECTROPUMPS DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE	RATED POWER	DIMENSIONS (mm)				WEIGHT
		A (4)	C (1)	M	T (2)	
	kW					kg (3)
Z12420 05/2B-L12W	260	3789	306	276	4939	865
Z12420 05-L12W	260	3789	306	276	4939	865
Z12420 06/2B-L12W	300	4174	306	276	5089	958
Z12420 06-L12W	300	4174	306	276	5089	958
Z12420 07/2B-**	350	-	-	-	-	-
Z12420 07-**	350	-	-	-	-	-

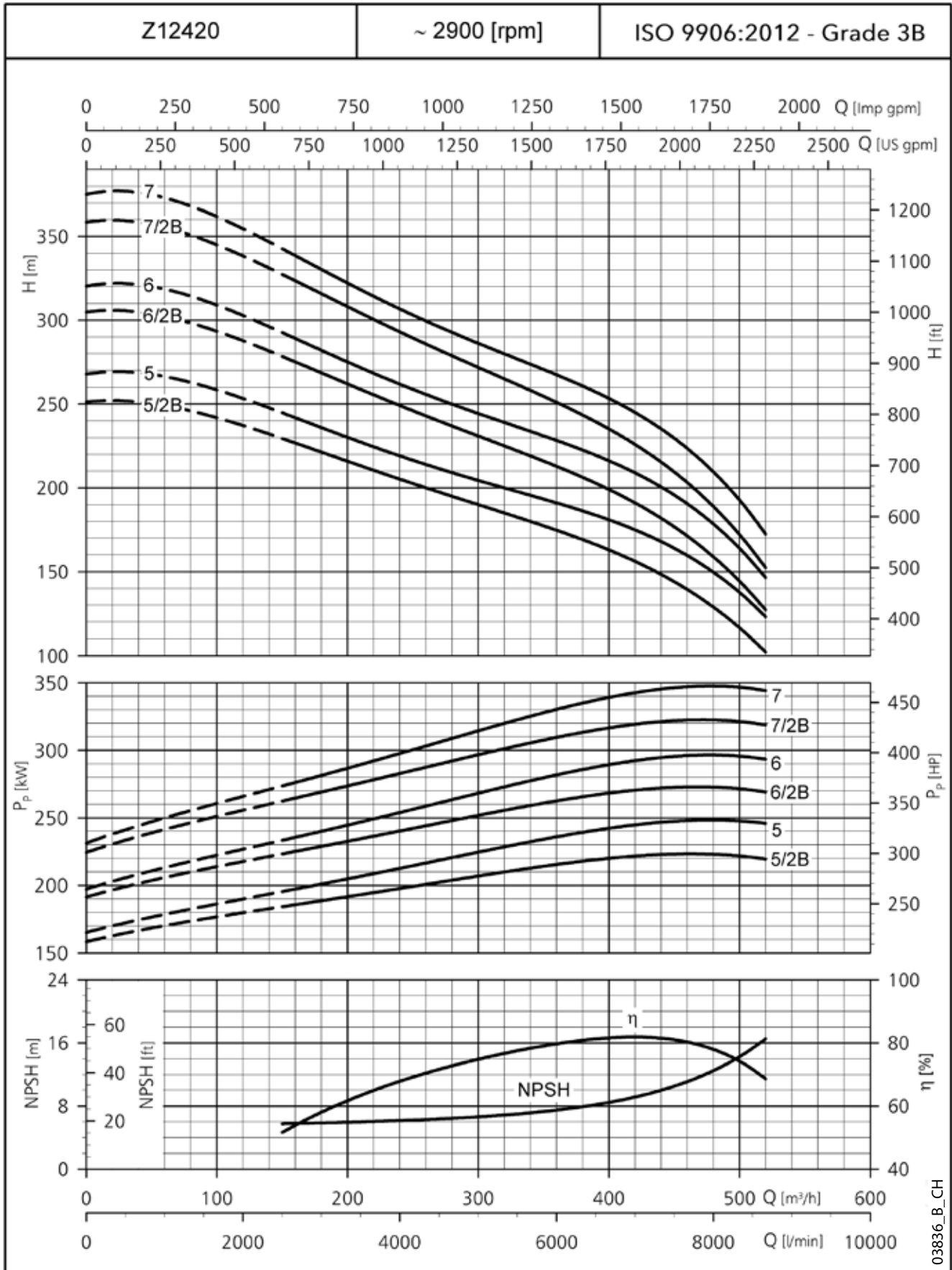
\*\* For power above 350 kW please contact our sales network.

z12420-2p50-3-en\_a\_td

- 1) Max electric pump diameter with 2 motor cables included.  
In case of 1 motor cable C = 300 mm with L12W motor.
- 2) T min valid only for max flow speed of 6,8 m/s between pump and perforation pipe.  
In case this velocity is exceeded, please contact our sales network.
- 3) Without cables.
- 4) For pumps without non-return valve, reduce dimension A by 188 mm, and reduce weight by 16,7 Kg.



### Z12420 SERIES, 5 TO 7 STAGES ELECTROPUMPS OPERATING CHARACTERISTICS



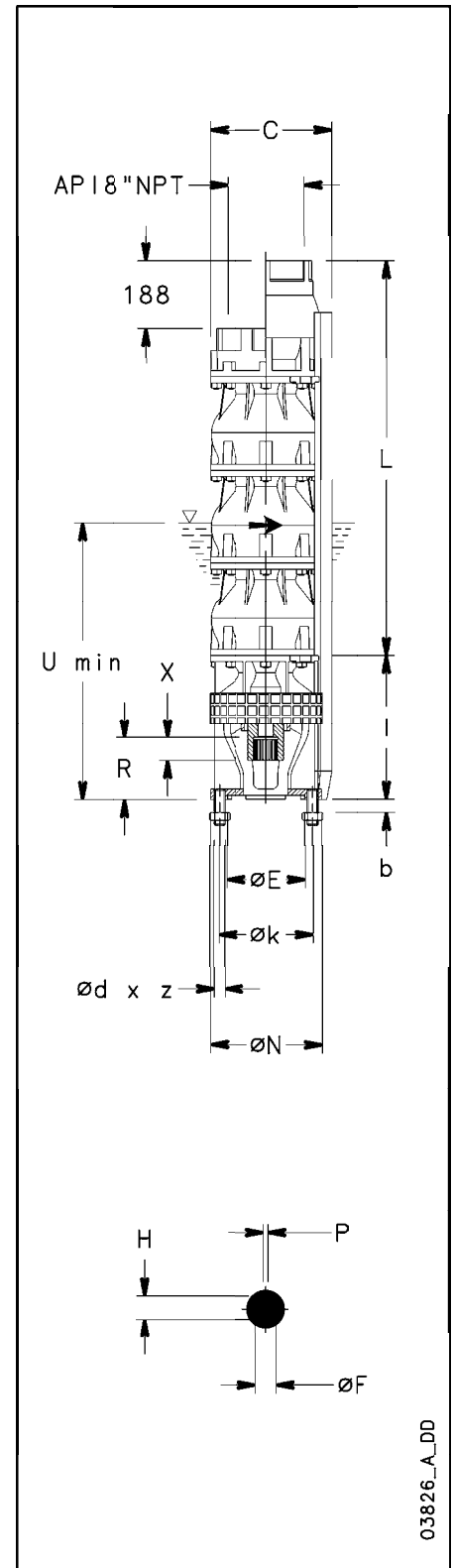
03836\_B\_CH

These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## Z12340 PUMP SERIES PUMPS DIMENSIONS AND WEIGHTS

PUMP TYPE	MAX POWER ABSORBED BY PUMP kW	DIMENSIONS (mm)			WEIGHT kg <sup>(3)</sup>	Ø MIN. WELL mm
		L <sup>(4)</sup>	C <sup>(1)</sup>	U <sup>(2)</sup>		
Z12340 01/1B-8	29,2	510	290	2900	72	305
Z12340 01/1A-8	34,9	510	290	2900	72	305
Z12340 01-8	42,6	510	290	2900	72	305
Z12340 02/2C-8	50,5	745	290	2900	99,3	305
Z12340 02/2B-8	57,2	745	290	2900	99,3	305
Z12340 02/2A-8	70,5	745	290	2900	99,3	305
Z12340 02-8	84,2	745	290	2900	99,3	305
Z12340 03/2C-10	94,6	980	302	2900	129,4	315
Z12340 03/3A-10	109,1	980	302	2900	129,4	315
Z12340 03/1A-10	124,5	980	302	2900	129,4	315
Z12340 03-10	132,4	980	302	2900	129,4	315
Z12340 04/2B-10	147,4	1215	302	2900	156,7	315
Z12340 04/2A-12	159,6	1215	302	2900	157,5	320
Z12340 04-12	173,8	1215	302	2900	157,5	320
Z12340 05/2B-12	193,3	1450	302	2900	184,8	320
Z12340 05/2A-12	205,2	1450	302	2900	184,8	320
Z12340 05-12	219,5	1450	302	2900	184,8	320
Z12340 06/2B-12	235,2	1685	302	2900	212,1	320
Z12340 06/2A-12	246,5	1685	302	2900	212,1	320
Z12340 06-12	260,7	1685	302	2900	212,1	320
Z12340 07/3A-12	280,0	1920	302	2900	239,4	320
Z12340 07-12	301,0	1920	302	2900	239,4	320
Z12340 08/3A-12	333,1	2155	302	2900	266,7	320
Z12340 08-12	354,8	2155	302	2900	266,7	320

z12340p-50-en\_b\_td



## PUMPS MOTOR COUPLING

MOTOR CONNECTION	DIMENSIONS (mm)							
	N	k	d	z	b	E <sup>H7</sup>	R	I
8" (NEMA)	185	152,4	M16	4	20	127	101,45	240
10"	232	190,5	M20	4	22	127	101,45	300
12"	232	190,5	M20	4	23	127	126,85	300

COUPLING	DIMENSIONS (mm)			
	Profile of gear coupling according to NEMA			
NUMBER OF TEETH	DIAMETRAL PITCH	PRESSURE ANGLE	X	
8" (NEMA)	23	16/32	30°	38

COUPLING	DIMENSIONS (mm)			
	F	H	P	X
10"	42.85 <sup>h6</sup>	47,6	9,5	86
12"	49.212 <sup>h6</sup>	54,5	12,7	95

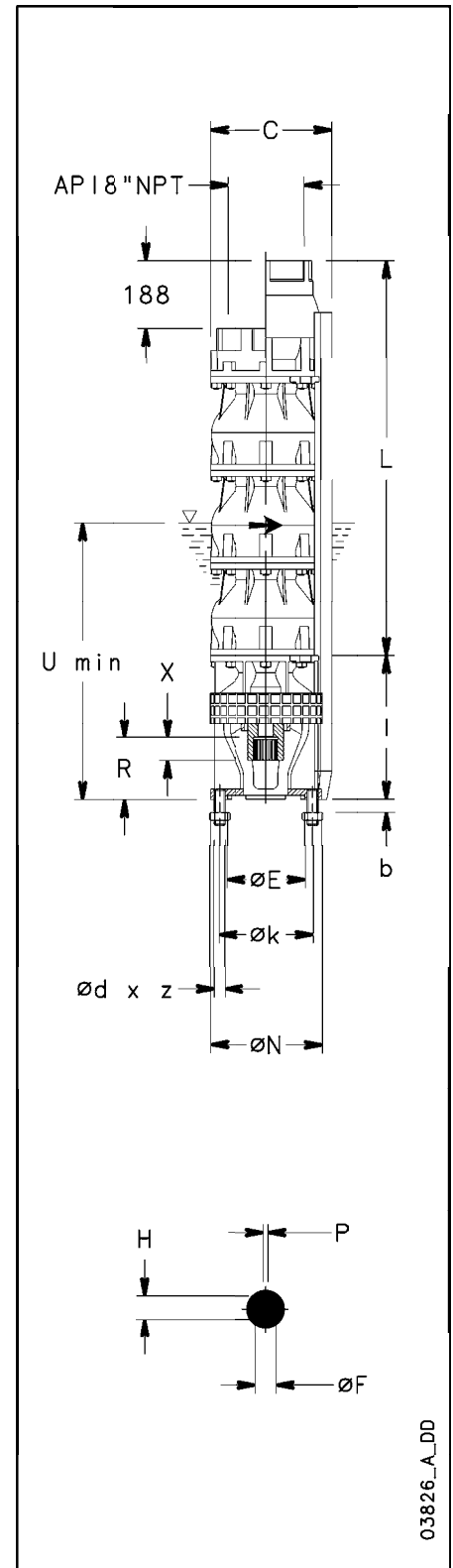
z12-mtcn-50-en\_a\_td

- 1) Max pump diameter with 2 motor cables included.
- 2) U min valid only for max flow speed of 6,8 m/s between pump and perforation pipe.
- 3) Weight with non-return valve. For pumps without non-return valve, reduce by 16,7 Kg.
- 4) For pumps without non-return valve, reduce dimension L by 188 mm.

## Z12420 PUMP SERIES PUMPS DIMENSIONS AND WEIGHTS

PUMP TYPE	MAX POWER ABSORBED BY PUMP kW	DIMENSIONS (mm)			WEIGHT kg <sup>(3)</sup>	Ø MIN. WELL mm
		L <sup>(4)</sup>	C <sup>(1)</sup>	U <sup>(2)</sup>		
Z12420 01/1C-8	29,7	510	290	2900	72	305
Z12420 01/1B-8	35,4	510	290	2900	72	305
Z12420 01/1A-8	43,1	510	290	2900	72	305
Z12420 01-8	47,0	510	290	2900	72	305
Z12420 02/2C-8	58,2	745	290	2900	99,3	305
Z12420 02/2B-8	71,5	745	290	2900	99,3	305
Z12420 02/2A-8	86,2	745	290	2900	99,3	305
Z12420 02-10	98,5	745	302	2900	102,1	315
Z12420 03/2C-10	109,6	980	302	2900	129,4	315
Z12420 03/2B-10	122,8	980	302	2900	129,4	315
Z12420 03/3A-10	134,1	980	302	2900	129,4	315
Z12420 03-10	147,8	980	302	2900	129,4	315
Z12420 04/3B-12	161,3	1215	302	2900	157,5	320
Z12420 04/3A-12	184,3	1215	302	2900	157,5	320
Z12420 04-12	200,1	1215	302	2900	157,5	320
Z12420 05/2B-12	223,1	1450	302	2900	184,8	320
Z12420 05-12	247,6	1450	302	2900	184,8	320
Z12420 06/2B-12	269,8	1685	302	2900	212,1	320
Z12420 06-12	291,0	1685	302	2900	212,1	320
Z12420 07/2B-12	325,4	1920	302	2900	239,4	320
Z12420 07-12	350,2	1920	302	2900	239,4	320

z12420p-50-en\_b\_td



## PUMPS MOTOR COUPLING

MOTOR CONNECTION	DIMENSIONS (mm)							
	N	k	d	z	b	E <sup>H7</sup>	R	I
8" (NEMA)	185	152,4	M16	4	20	127	101,45	240
10"	232	190,5	M20	4	22	127	101,45	300
12"	232	190,5	M20	4	23	127	126,85	300

COUPLING	DIMENSIONS (mm)			
	Profile of gear coupling according to NEMA			
	NUMBER OF TEETH	DIAMETRAL PITCH	PRESSURE ANGLE	X
8" (NEMA)	23	16/32	30°	38

COUPLING	DIMENSIONS (mm)			
	F	H	P	X
10"	42.85 <sup>h6</sup>	47,6	9,5	86
12"	49.212 <sup>h6</sup>	54,5	12,7	95

z12-mtcn-50-en\_a\_td

- 1) Max pump diameter with 2 motor cables included.
- 2) U min valid only for max flow speed of 6,8 m/s between pump and perforation pipe.
- 3) Weight with non-return valve. For pumps without non-return valve, reduce by 16,7 Kg.
- 4) For pumps without non-return valve, reduce dimension L by 188 mm.



# ACCESSORIES

## L6C - L6W MOTOR SERIES MOTOR - CONTROL PANEL COMBINATION TABLE

MOTOR TYPE THREE-PHASE L6C - 6"	RATED POWER		RATED CURRENT 380-415 V	PANEL TYPE					
	KW	HP		A	QTD/...	Q3D/...	Q3I/...	Q3A/...	Q3Y/...
	4	5,5	11,0	...40-75	...40-75	...40-75	...40-75	...40-75	...75
5,5	7,5	14,6	...40-75	...40-75	...40-75	...40-75	...40-75	...75	
7,5	10	18,3	...75-92	...75-92	...75-92	...75-92	...75-92	...150	
9,3	12,5	22,8	-	...92-110	...92-110	...92-110	...92-110	...150	
11	15	26,0	-	...110-150	...110-150	...110-150	...110-150	...150	
15	20	34,2	-	...150-185	...150-185	...150-185	...150-185	...220	
18,5	25	42,0	-	...185-220	...185-220	...185-220	...185-220	...220	
22	30	47,5	-	...185-220	...185-220	...185-220	...185-220	...300	
30	40	63,5	-	...300-370	...300-370	...300-370	...300-370	...370	
37	50	80,0	-	-	...370-450	...370-450	...370-450	...450	

For different voltages, please contact our sales network.

L6c-2p50-en\_e\_tc

MOTOR TYPE THREE-PHASE L6W - 6"	RATED POWER		RATED CURRENT 380-415 V	PANEL TYPE					
	KW	HP		A	QTD/...	Q3D/...	Q3I/...	Q3A/...	Q3Y/...
	4	5,5	9,89	...40-75	...40-75	...40-75	...40-75	...40-75	...75
5,5	7,5	12,7	...40-75	...40-75	...40-75	...40-75	...40-75	...75	
7,5	10	17,0	...75-92	...75-92	...75-92	...75-92	...75-92	...150	
9,3	12,5	20,5	-	...92-110	...92-110	...92-110	...92-110	...150	
11	15	24,2	-	...110-150	...110-150	...110-150	...110-150	...150	
13	17,5	28,1	-	...110-150	...110-150	...110-150	...110-150	...150	
15	20	32,1	-	...150-185	...150-185	...150-185	...150-185	...220	
18,5	25	38,5	-	...185-220	...185-220	...185-220	...185-220	...220	
22	30	47,3	-	...220-300	...220-300	...220-300	...220-300	...300	
26	35	56,5	-	...220-300	...220-300	...220-300	...220-300	...300	
30	40	63,8	-	...300-370	...300-370	...300-370	...300-370	...370	
37	50	81,8	-	-	...370-450	...370-450	...370-450	...450	
MOTOR TYPE THREE-PHASE L6W HT - 6"	4	5,5	10,5	...40-75	...40-75	...40-75	...40-75	...40-75	...75
	5,5	7,5	13,4	...40-75	...40-75	...40-75	...40-75	...40-75	...75
	7,5	10	17,3	...75-92	...75-92	...75-92	...75-92	...75-92	...150
	9,3	12,5	20,8	-	...92-110	...92-110	...92-110	...92-110	...150
	11	15	23,9	-	...110-150	...110-150	...110-150	...110-150	...150
	13	17,5	28,4	-	...110-150	...110-150	...110-150	...110-150	...150
	15	20	32,5	-	...150-185	...150-185	...150-185	...150-185	...220
	18,5	25	41,6	-	...185-220	...185-220	...185-220	...185-220	...220
	22	30	49,7	-	...220-300	...220-300	...220-300	...220-300	...300
26	35	55,8	-	...220-300	...220-300	...220-300	...220-300	...300	
30	40	68,8	-	...300-370	...300-370	...300-370	...300-370	...370	

For different voltages, please contact our sales network.

L6w-2p50-en\_c\_tc

## L8W - L10W - L12W MOTOR SERIES MOTOR - CONTROL PANEL COMBINATION TABLE

	RATED POWER		RATED CURRENT 380-415 V A	PANEL TYPE					
	KW	HP		Q3D/...	Q3I/...	Q3A/...	Q3SF/...		
	<b>MOTOR TYPE THREE-PHASE L8W - 8"</b>								
	30	40	64,5	...300-370	...300-370	...300-370	...370		
	37	50	80	-	...370-450	...370-450	...450		
	45	60	95,9	-	...450-550	...450-550	...550		
	52	70	110	-	...550-750	...550-750	...590		
	55	75	118	-	...550-750	...550-750	...590		
	60	80	127	-	...550-750	...550-750	...750		
	67	90	140	-	...750-900	...750-900	...900		
	75	100	155	-	...750-900	...750-900	...900		
	83	110	171	-	...750-900	...750-900	...900		
	93	125	189	-	...900-1100	...900-1100	...1100		
<b>MOTOR TYPE THREE-PHASE L8W HT - 8"</b>									
	30	40	63,7	...300-370	...300-370	...300-370	...370		
	37	50	77	-	...370-450	...370-450	...450		
	45	60	94,7	-	...450-550	...450-550	...550		
	52	70	111	-	...550-750	...550-750	...590		
	55	75	116	-	...550-750	...550-750	...590		
	60	80	125	-	...550-750	...550-750	...750		
	67	90	137	-	...750-900	...750-900	...900		
	75	100	153	-	...750-900	...750-900	...900		
	83	110	168	-	...750-900	...750-900	...900		

For different voltages, please contact our sales network.

L8w-2p50-en\_d\_tc

	RATED POWER		RATED CURRENT 380-415 V A	PANEL TYPE					
	KW	HP		Q3I/...	Q3A/...	Q3SF/...			
	<b>MOTOR TYPE THREE-PHASE L10W-10"</b>								
	93	125	191	...900-1100	...900-1100	...1100			
	110	150	221	...1100-1320	...1100-1320	...1100			
	130	175	262	...1320-1600	...1320-1600	(1)			
	150	200	298	...1600-2000	...1600-2000	(1)			
<b>MOTOR TYPE THREE-PHASE L10W HT-10"</b>									
	83	110	172	...750-900	...750-900	...900			
	93	125	189	...900-1100	...900-1100	...1100			
	110	150	225	...1100-1320	...1100-1320	...1100			
	130	175	261	...1320-1600	...1320-1600	(1)			

(1) On request.

L10w-2p50-en\_d\_tc

For different voltages, please contact our sales network.

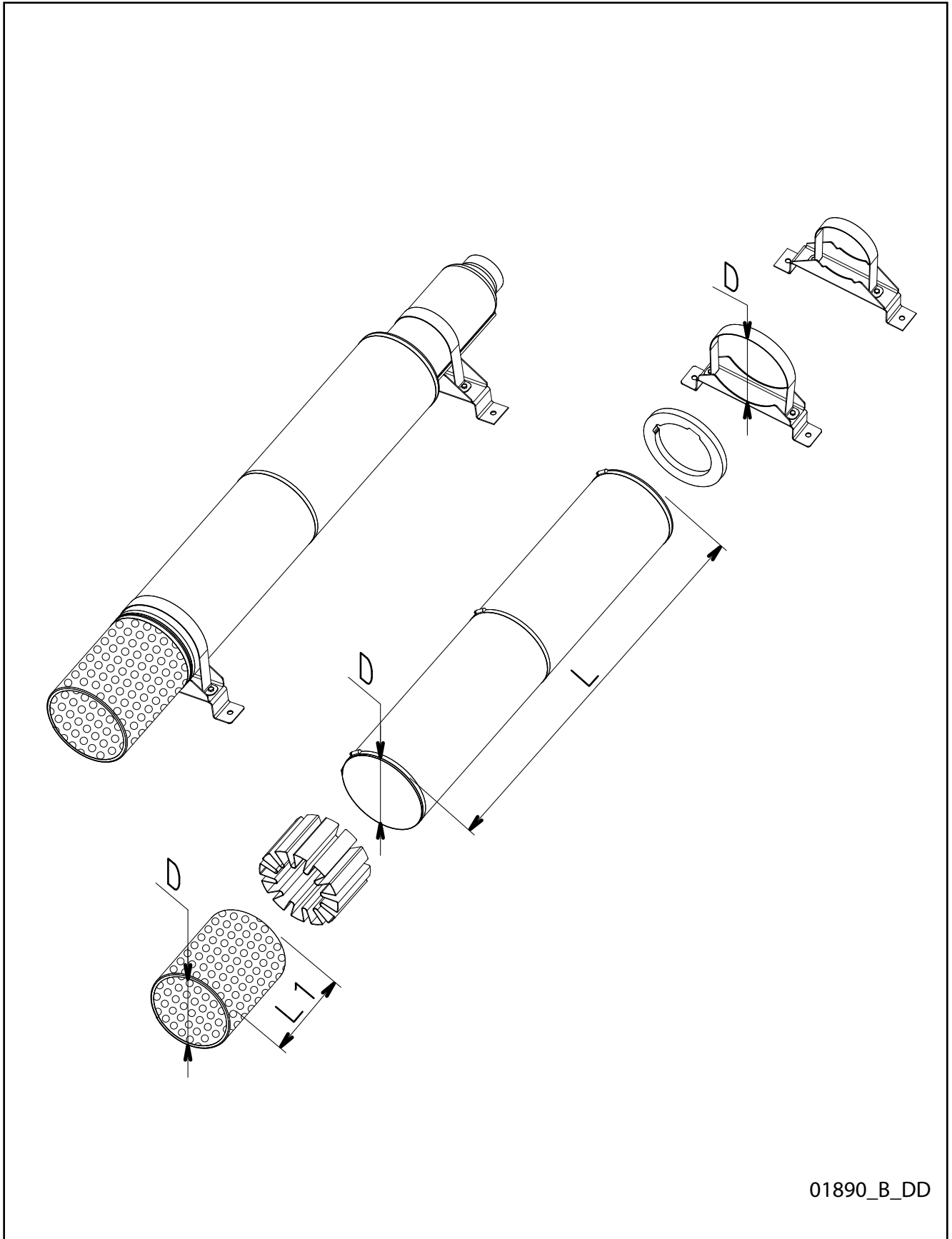
	RATED POWER		RATED CURRENT 380-415 V A	PANEL TYPE					
	KW	HP		Q3I/...	Q3A/...	Q3SF/...			
	<b>MOTOR TYPE THREE-PHASE L12W-12"</b>								
	185	250	378	...1600-2000	...1600-2000	(1)			
	220	300	438	...2000-2500	...2000-2500	(1)			
	260	350	512	...2500-3150	...2500-3150	(1)			
	300	400	621	(1)	(1)	(1)			
<b>MOTOR TYPE THREE-PHASE L12W HT-12"</b>									
	150	200	303	...1600-2000	...1600-2000	(1)			
	185	250	368	...1600-2000	...1600-2000	(1)			
	220	300	431	...2000-2500	...2000-2500	(1)			

(1) On request.

L12w-2p50-en\_d\_tc

For different voltages, please contact our sales network.

**COOLING SHROUDS**



01890\_B\_DD



## COOLING SHROUDS

PUMP TYPE	MOTOR TYPE				COOLING SET SHROUD (D x L)	COOLING SET FILTER (D x L1)	COOLING SET BRACKETS (D)
	L6C	L6W	L8W	L10W			
<b>Z855 Z875</b>	5,5	5,5			D225X1000	D225X192	D225 - 2PZ
	7,5	7,5					
	9,3	9,3					
	11	11					
	-	13					
	15	15			D225X1250	D225X192	D225 - 2PZ
	18,5	18,5					
	22	22					
	-	26			D225X1500	D225X192	D225 - 3PZ
	30	30					
37	37						
<b>Z895 Z8125</b>	7,5	7,5			D256X1000	D256X325	D256 - 2PZ
	11	11					
	-	13					
	15	15			D256X1250	D256X325	D256 - 2PZ
	18,5	18,5					
	22	22					
	-	26			D256X1500	D256X325	D256 - 3PZ
	30	30					
37	37						
<b>Z855 Z875</b>			30		D256X1500	D256X325	D256 - 3PZ
			37				
			45				
			52				
			55				
			60		D256X1750	D256X325	D256 - 3PZ
			67				
			75				
			83				
			93				
<b>Z895 Z8125</b>			30		D285X1500	D285X385	D285 - 3PZ
			37				
			45				
			52				
			55				
			60		D285X1750	D285X385	D285 - 3PZ
			67				
			75				
			83				
			93				
<b>Z855 Z875</b>				93	D285X2250	D285X385	D285 - 3PZ
				110			
				130			
				150			
<b>Z895 Z8125</b>				93	D330X2250	D330X385	D330 - 3PZ
				110			
				130			
				150			

Z8\_kit-raf50-en\_b\_ta

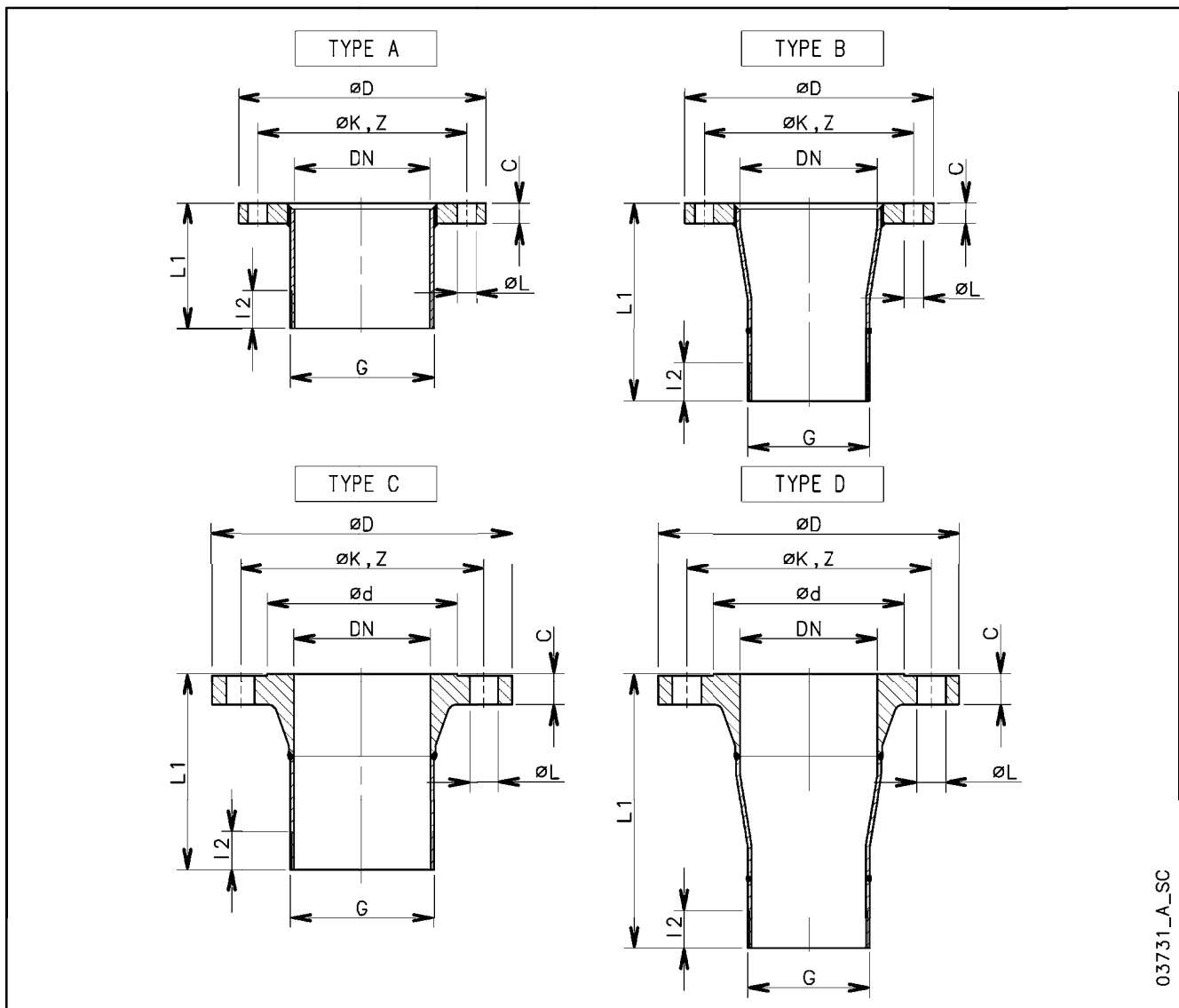
## COOLING SHROUDS

PUMP TYPE	MOTOR TYPE					COOLING SET SHROUD (D x L)	COOLING SET FILTER (D x L1)	COOLING SET BRACKETS (D)
	L6C	L6W	L8W	L10W	L12W			
Z10150	11	11				D285X1000	D285X385	D285 - 2PZ
	-	13						
	15	15				D285X1000	D285X385	D285 - 2PZ
Z10150	18,5	18,5				D285X1250	D285X385	D285 - 2PZ
Z10220	22	22						
	-	26						
	30	-						
	-	30				D285X1500	D285X385	D285 - 3PZ
	37	37						
	18,5	18,5				D330X1250	D330X385	D330 - 2PZ
Z10275	22	22						
	-	26						
	30	-						
	-	30				D330X1500	D330X385	D330 - 3PZ
	37	37						
			30			D330X1250	D330X385	D330 - 2PZ
			37					
			45					
			52			D330X1500	D330X385	D330 - 3PZ
Z10150			55					
Z10220			60					
			67					
			75			D330X1800	D330X385	D330 - 3PZ
			83					
			93			D330X2000	D330X385	D330 - 3PZ
			30			D380X1250	D380X385	D380 - 2PZ
Z10275			37					
Z12340			45					
			52			D380X1500	D380X385	D380 - 3PZ
			55					
			60					
			67					
			75			D380X1750	D380X385	D380 - 3PZ
			83					
			93			D380X2000	D380X385	D380 - 3PZ
			30			D420X1250	D420X400	D420 - 2PZ
Z12420			37					
			45					
			52			D420X1500	D420X400	D420 - 3PZ
			55					
			60					
			67					
			75			D420X1750	D420X400	D420 - 3PZ
			83					
			93			D420X2000	D420X400	D420 - 3PZ
			110			D330X2000	D330X385	D330 - 3PZ
Z10150			130					
			150			D330X2250	D330X385	D330 - 3PZ
			110			D380X2000	D380X385	D380 - 3PZ
Z10220			130					
Z10275			150			D380X2250	D380X385	D380 - 3PZ
			110			D420X2000	D420X400	D420 - 3PZ
Z12340			130					
			150			D420X2250	D420X400	D420 - 3PZ
			110			D450X2000	D450X420	D450 - 3PZ
Z12420			130					
			150			D450X2250	D450X420	D450 - 3PZ
			185			D380X2000	D380X385	D380 - 3PZ
Z10150			220					
Z10220			260			D380X2250	D380X385	D380 - 3PZ
			300			D380X2500	D380X385	D380 - 3PZ
			185			D420X2000	D420X400	D420 - 3PZ
Z10275			220					
			260			D420X2250	D420X400	D420 - 3PZ
			300			D420X2500	D420X400	D420 - 3PZ
			185			D450X2000	D450X420	D450 - 3PZ
Z12340			220					
			260			D450X2250	D450X420	D450 - 3PZ
			300			D450X2500	D450X420	D450 - 3PZ
			185			D480X2000	D480X420	D480 - 3PZ
Z12420			220					
			260			D480X2250	D480X420	D480 - 3PZ
			300			D480X2500	D480X420	D480 - 3PZ

Material : Stainless steel EN 10088-1 - X5CrNi18-10 (1.4301) AISI 304. (Other materials available on request).

Z10-Z12\_kit-raf50-en\_c\_ta

## Z8 ISO THREADED FLANGES



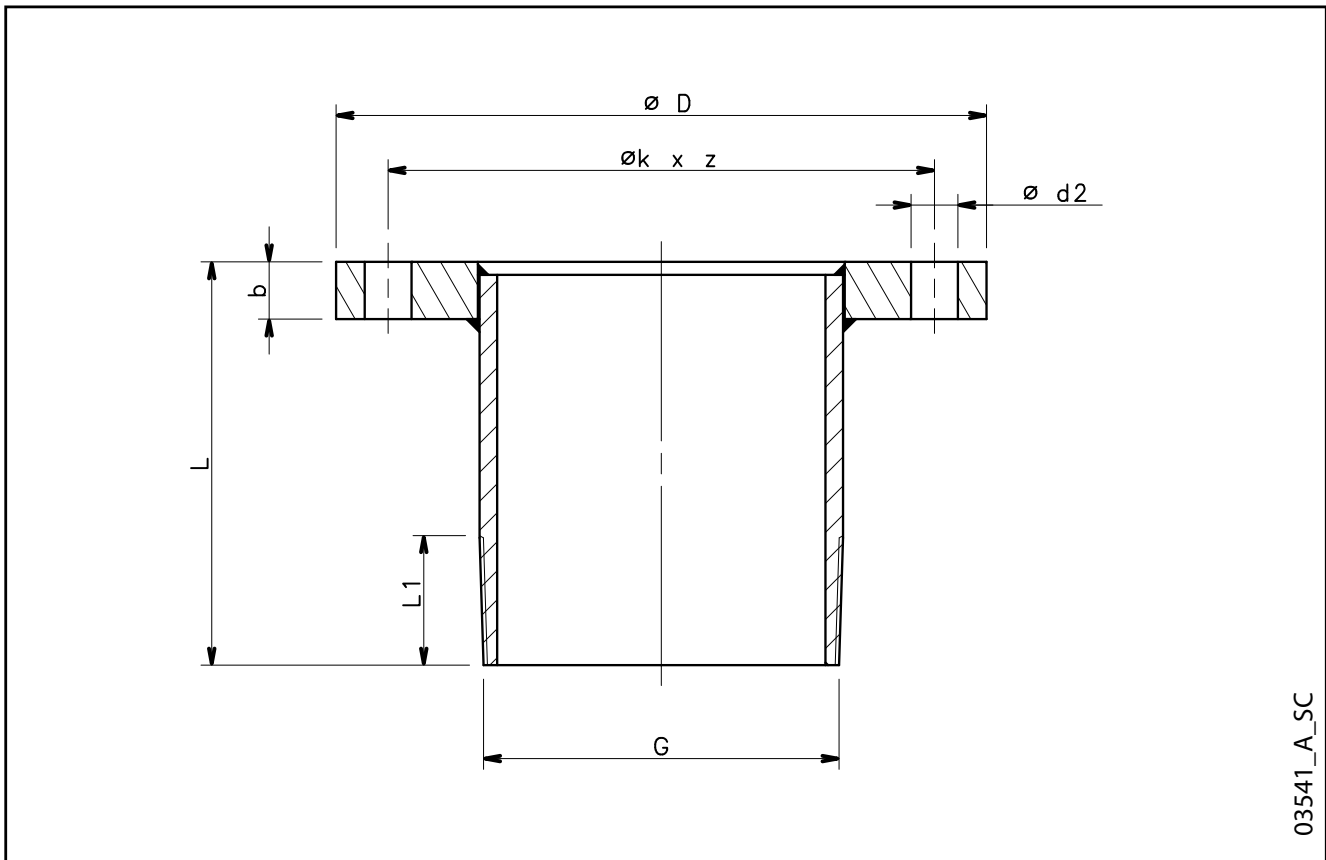
03731\_A\_SC

PUMP TYPE	THREADING ISO 7-1 G	Dimensions (mm)										
		* Flange according to EN 1092-1								L1	I2	TYPE
		DN	PN	$\varnothing D$	$\varnothing d$	$\varnothing K$	Z	$\varnothing L$	C			
Z855 Z875 Z895 Z8125	R 5	125	10÷16	250	-	210	8	18	22	108	44	A
		125	25÷40	270	188	220	8	26	26	168	44	C
		125	63	295	188	240	8	30	34	188	44	C
		150	10÷16	285	-	240	8	22	22	248	44	B
		150	25÷40	300	218	250	8	26	28	315	44	D
		150	63	345	218	280	8	33	36	335	44	D

\* Flanges according to ASME B16.5 are available on request.

z8-flange-en\_a\_td

## Z10-Z12 ISO THREADED FLANGES



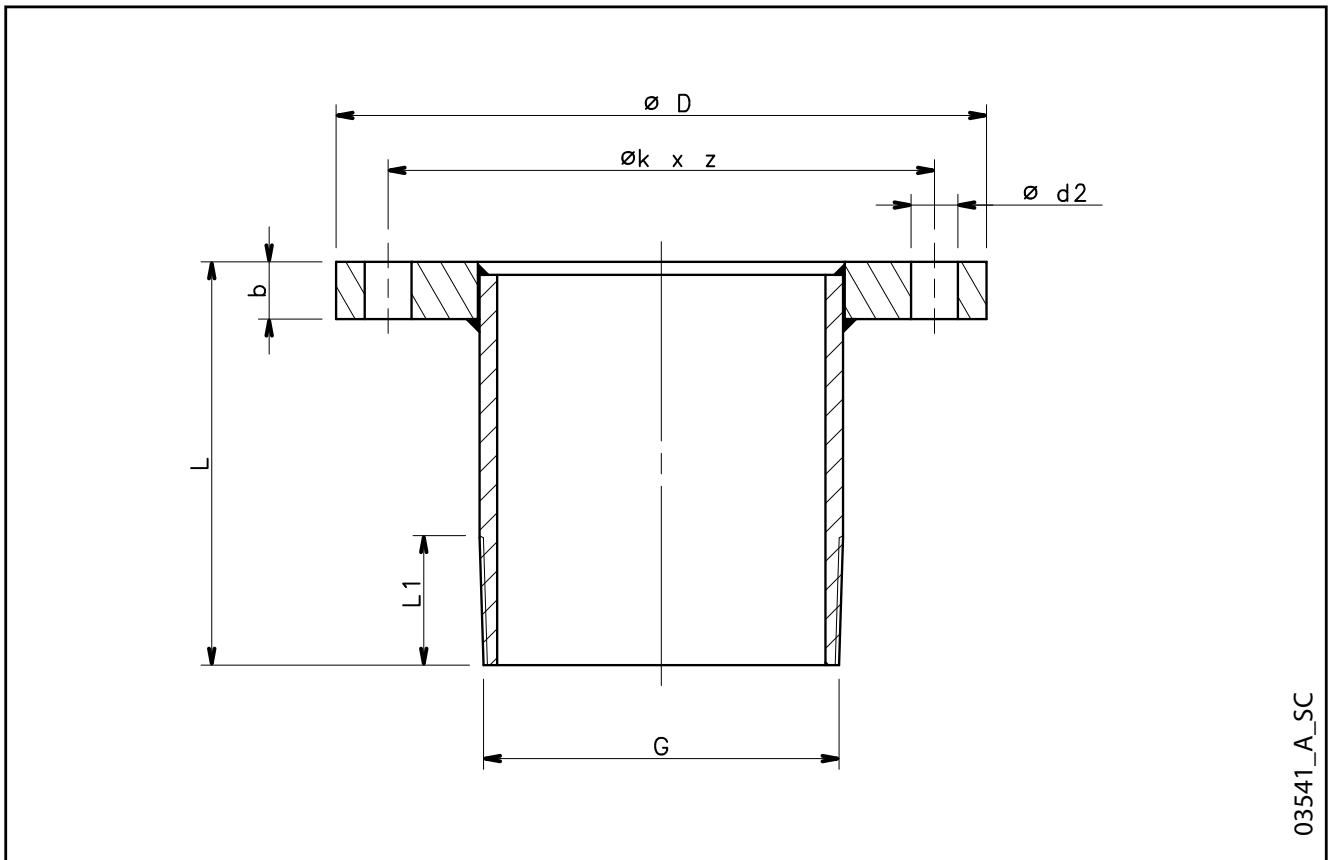
03541\_A\_SC

PUMP TYPE	THREADING G	Dimensions (mm)									
		Flange according to EN 1092-1								L	L1
		DN	PN	Ø D	Ø d	Ø k	b	Ø d2	Z		
Z10150 Z10220 Z10275	EN 10226-1 R 6	150	10 ÷ 16	285	212	240	22	22	8	198	40
		150	25 ÷ 40	300	218	250	28	26	8	218	40
		150	63	345	218	280	36	33	8	238	40
		200	10	340	268	295	24	22	8	357	40
		200	16	340	268	295	24	22	12	357	40
		200	25	360	278	310	30	26	12	375	40
		200	40	375	285	320	34	30	12	383	40
Z12340	ANSI B1.20.1 API 8 NPT	200	10	340	-	295	26	22	8	150	55
		200	16	340	-	295	30	22	12	150	55
		200	25	360	-	310	34	26	12	150	55
		200	40	375	-	320	40	30	12	150	55
		200	63	415	-	345	42	36	12	150	55

Material : Stainless steel EN 10088-1 - X6CrNiMoTi17-12-2 (1.4571) AISI 316Ti. (Other materials available on request).

z-flange-r-en\_b\_td

### Z10 ANSI (API) THREADED FLANGE



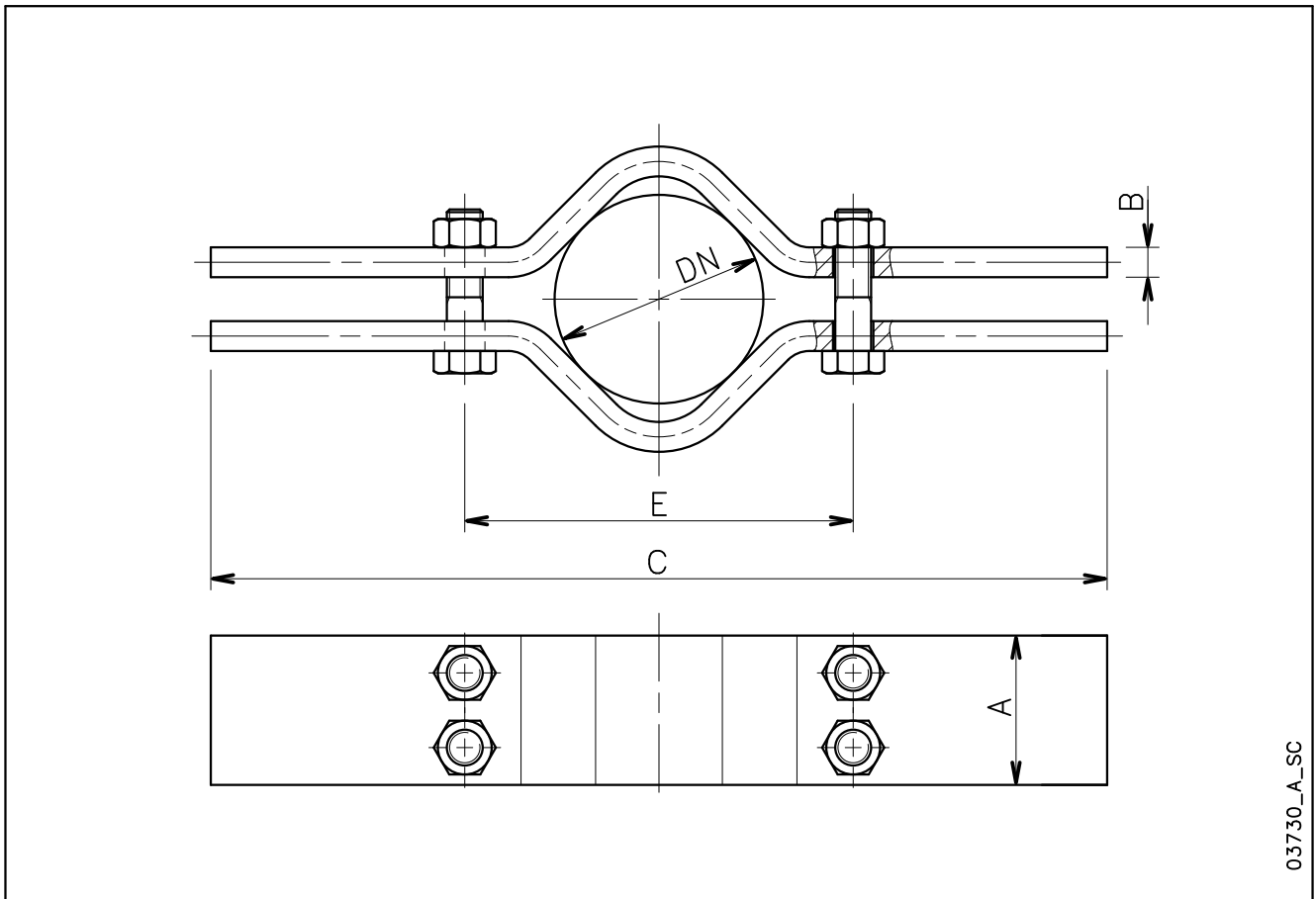
03541\_A\_SC

PUMP TYPE	THREADING EN 10226-1 G	Dimensions (mm)										
		Flange according to ASME B16.5								Z	L	L1
		DN	Class	Ø D	Ø d	Ø k	b	Ø d2				
Z10150 Z10220 Z10275	R 6	6"	150	280	216	241	25	22	8	232	40	
		6"	300	317	216	270	37	22	12	242	40	
		6"	600	356	216	292	54	29	12	266	40	
		8"	150	343	270	298	28	22	8	397	40	
		8"	300	381	270	330	41	25	12	406	40	
		8"	600	419	270	349	62	32	12	434	40	

Material : Stainless steel EN 10088-1 - X6CrNiMoTi17-12-2 (1.4571) AISI 316Ti. (Other materials available on request).

z-flange-api-en\_b\_td

## CARRYING CLAMPS



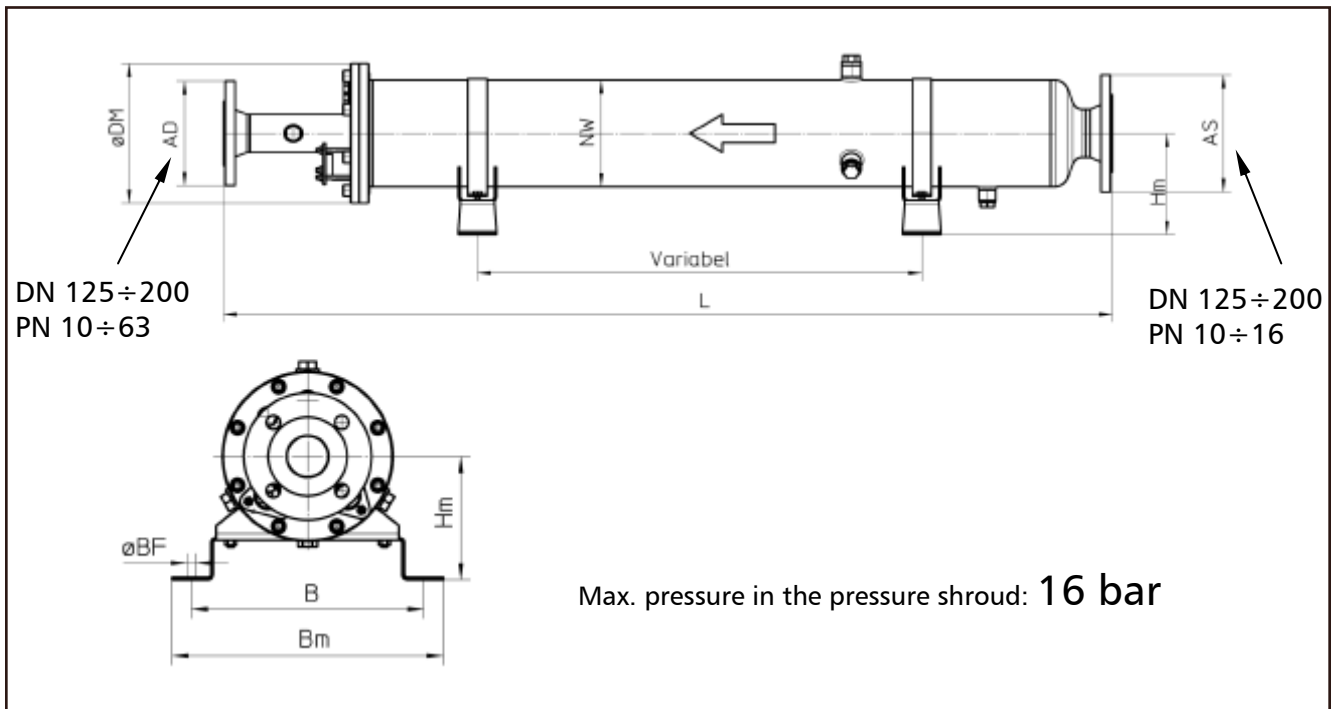
NOMINAL PIPE DIAMETER DN	CARRYING CLAMPS							PIPE WEIGHT		
	Dimensions (mm)						Pmax <sup>(1)</sup> kg	Flanged kg/m	Threaded kg/m	Water kg/m
	A	B	C	E	SCREW					
65	R 2 1/2"	50	15	600	130	M16x90	1300	6,7	8,0	3,3
80	R 3"	80	15	600	180	M20x70	3400	8,4	10,5	5,0
100	R 4"	80	15	600	180	M20x110	3400	20,5	15,0	7,9
125	R 5"	100	20	600	260	M24x90	7250	27,5	18,5	12,3
150	R 6"	100	20	600	260	M24x130	7250	33,0	22,0	17,6
175	R 7"	120	25	800	360	M30x110	9750	27,0	25,5	24,0
200	R 8"	120	25	800	360	M30x150	9750	33,0	34,0	31,5
250	R 10"	120	25	800	360	M30x220	9750	48,0	48,0	49,0

1) Max admissible weight.

clamp-en\_b\_td

NOTE. Two sets of clamps are necessary for the installation of one unit.

Material : EN 10027-1-S235JR (1.0038) painted.

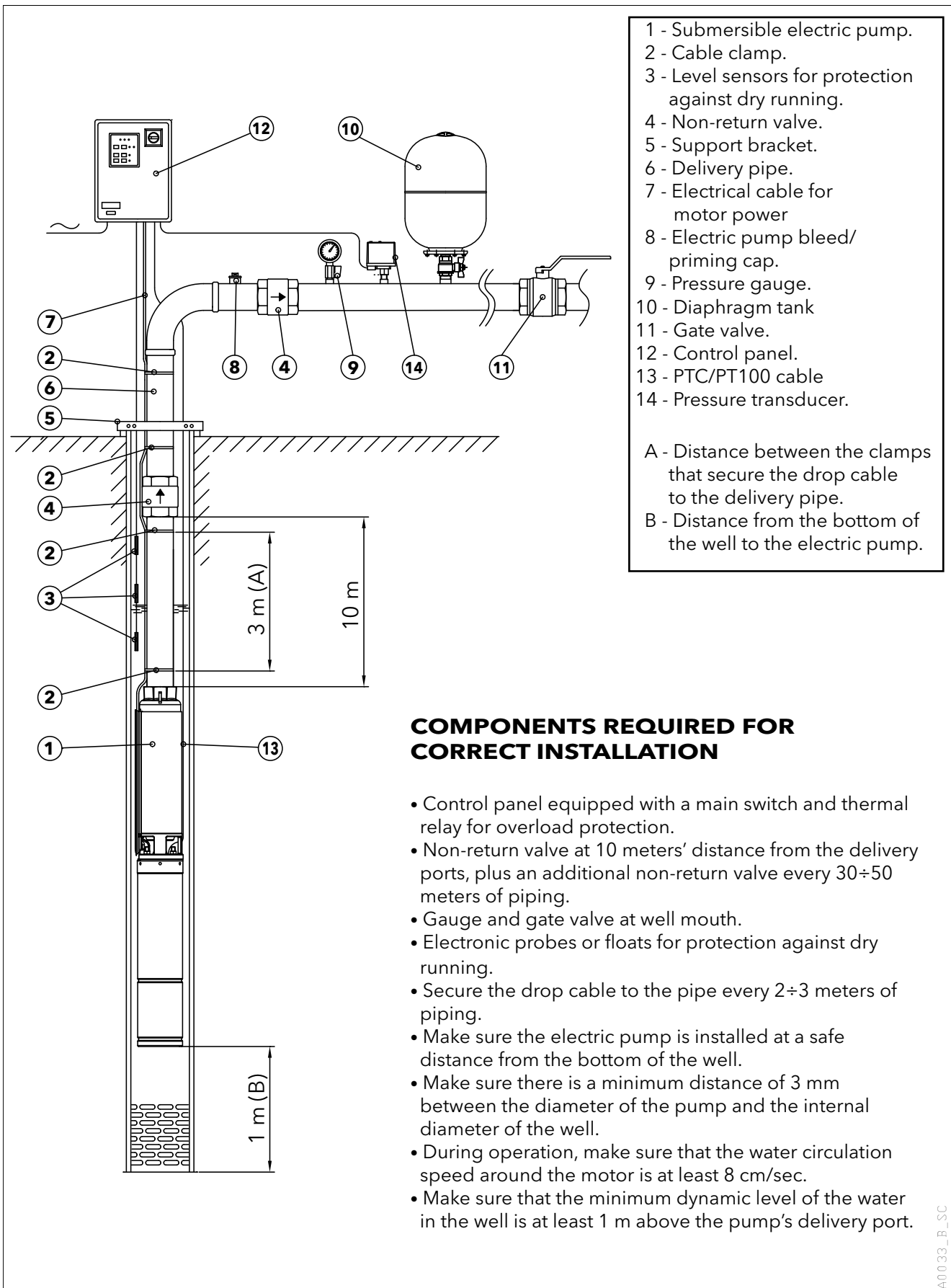
**BOOSTER SHROUD**



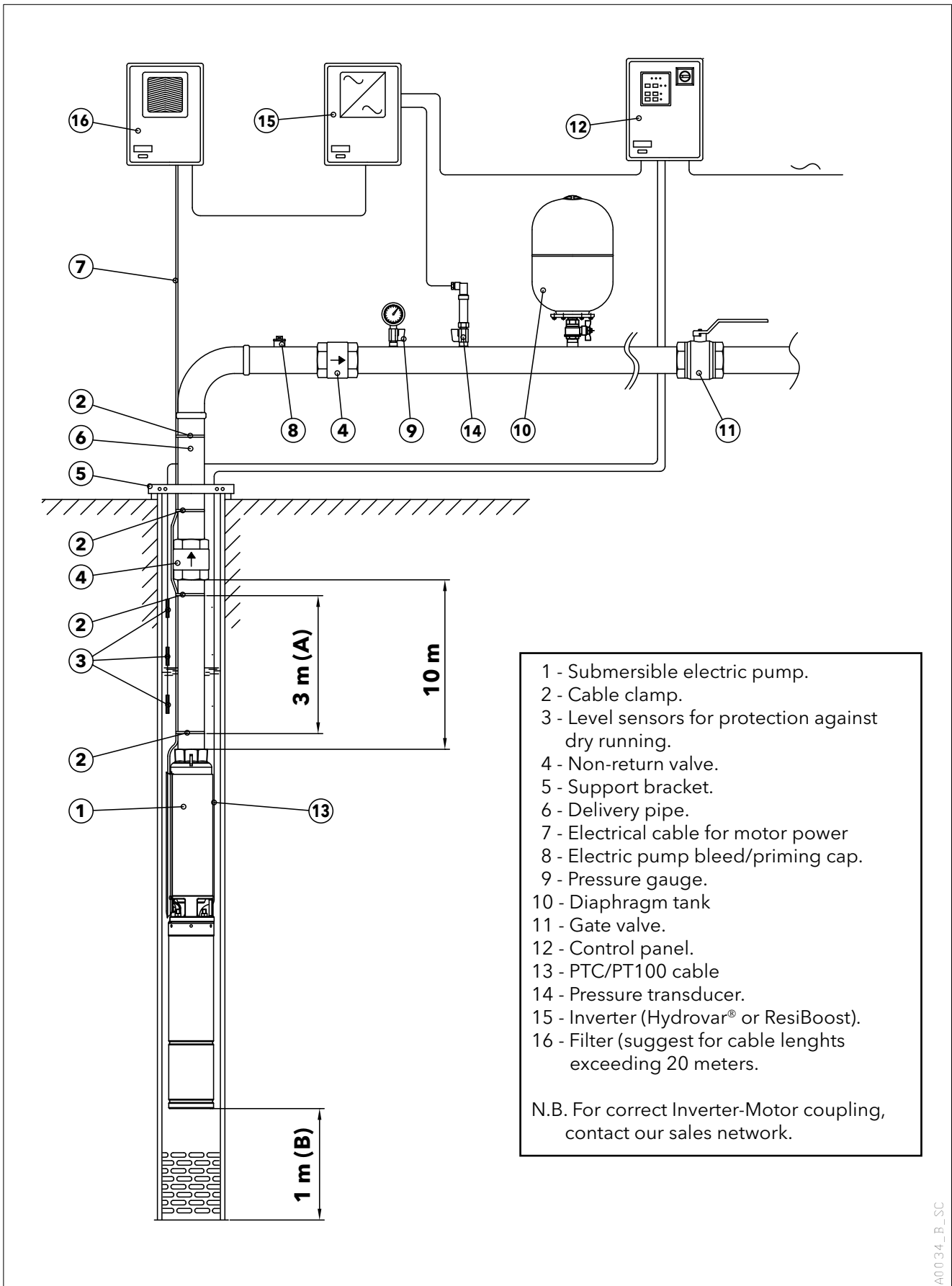


# TECHNICAL APPENDIX

## SUBMERSIBLE ELECTRIC PUMP INSTALLATION DIAGRAM

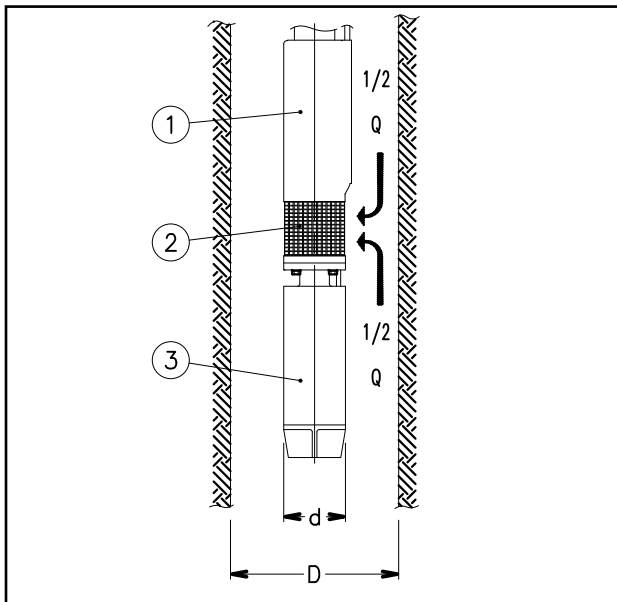


## EXAMPLE OF INSTALLATION OF A SUBMERSIBLE ELECTRIC PUMP CONTROLLED BY AN INVERTER



A0034\_B\_SC

## CALCULATING THE SPEED OF THE FLUID THAT FLOWS AROUND A SUBMERGED MOTOR AND SIZING OF THE COOLING SLEEVE



The following formula is used to verify whether the speed of the fluid that flows around the motor of a submersible pump is high enough to guarantee the proper cooling of the motor:

$$v = \frac{\frac{Q}{2}}{\pi \cdot \left( \frac{D^2}{4} - \frac{d^2}{4} \right)}$$

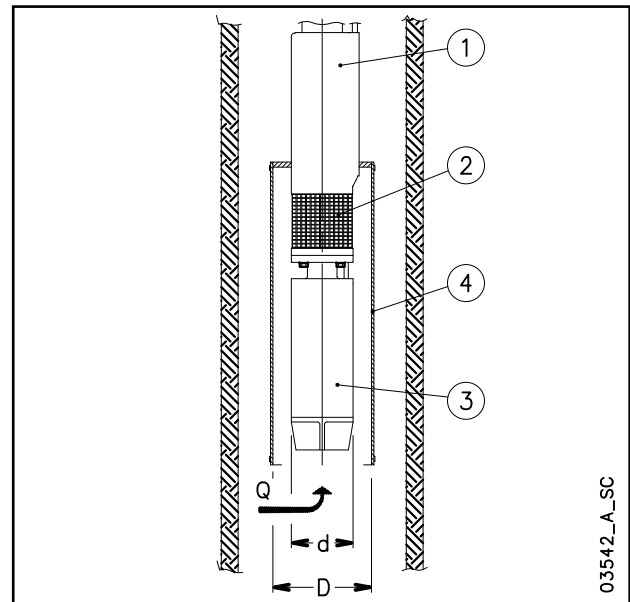
Where:

- Q** in [m<sup>3</sup>/s] is the operating flow rate of the electric pump; only half of this flow is taken into account, because the fluid which is sucked into the area of the filter (2), comes from the motor side (3) as well as from the pump side (1);
- D** in [m] is the diameter of the well;
- d** in [m] is the diameter of the motor (3);
- v** in [m/s] is the calculated speed of the fluid that flows around the motor.

Now, compare the speed thus calculated (v) with the minimum speed required for correct cooling of the motor ( $v_m$ ): if  $v \geq v_m$  it means that the motor is properly cooled, if  $v < v_m$  will be necessary to mount a cooling sleeve (4).

### Example:

An electric pump OZ630/12 (motor diameter  $d = 0.144$  m) operates in an 8" well (well diameter  $D = 0.203$  m) with flow rate  $Q = 20$  m<sup>3</sup>/h =  $0.0055$  m<sup>3</sup>/s.  
 Speed of fluid  $v = (0.0055/2) / \{ \pi \cdot [(0.203)^2/4 - (0.144)^2/4] \} = 0.17$  m/s.  
 The minimum speed required for proper motor cooling is  $v_m = 0.20$  m/s.  
 Because  $v < v_m$ , it will be necessary to mount a cooling sleeve.



The following formula is used to determine the maximum diameter of a cooling sleeve to be mounted on a submersible motor:

$$D = \sqrt{4 \cdot \left( \frac{Q}{v \cdot \pi} + \frac{d^2}{4} \right)}$$

Where:

- Q** in [m<sup>3</sup>/s] is the operating flow rate of the electric pump; the entire flow is taken into account because the fluid comes from the motor side (3) only;
- D** in [m] corresponds to the diameter of the cooling sleeve (4);
- d** in [m] corresponds to the diameter of the motors(3);
- v<sub>m</sub>** in [m/s] is the minimum speed of the fluid that flows around the motor.

If the electric pump operates at different flow rate, the minimum flow rate must be taken into account for calculating the diameter of the cooling sleeve.

### Example:

A motor coupled to the electric pump OZ615/24 (motor diameter  $d = 0.144$  m), which operates with flow rate  $Q = 15$  m<sup>3</sup>/h =  $0.0042$  m<sup>3</sup>/s, requires a minimum speed of the fluid of  $v_m = 0.20$  m/s.  
 Cooling sleeve diameter  $D = \{ 4 \cdot [(0.0042 / (0.2 \cdot \pi)) + (0.144)^2/4] \}^{0.5} = 0.217$  m.

03542\_A\_SC

## ASYNCHRONOUS MOTOR STARTING SYSTEMS

### Direct

Suitable for low-power motors.  
 The starting current ( $I_s$ ) is much higher than the rated current ( $I_n$ ).  
 $I_s = I_n \times 4 \div 8$   
 $T_s = T_n \times 2 \div 3$

### Indirect

#### • Star/Delta

The starting current ( $I_s$ ) is three times less than the direct starting current.  
 $I_s = I_n \times 1.3 \div 2.7$   
 $T_s = T_n \times 0.7 \div 1$   
 In the star to delta changeover phase (approx. 70 ms) the motor is not supplied and tends to reduce its rotation speed.  
 In the case of submersible electric pumps with power above 10 HP, the modest mass of the rotor causes a slowdown at changeover, so that the initial Star supply phase is rendered partially useless.  
 In such cases we recommend using impedance panels or an autotransformer.

#### • Impedances

The motor is started with a voltage which is lower than the rated one, and which is obtained by means of impedances.  
 The Lowara panels use impedances which cut down to 70% the starting voltage.  
 The switch to the rated voltage takes place without any interruptions of the power supply.

Rated voltage  $U_n = 400\text{ V}$   
 Starting voltage  $U_s = U_n \times 0,7 = 280\text{ V}$

#### Starting current

$$I_s = I_n \times 4 \div 8 \times \left( \frac{U_s}{U_n} \right) = I_n \times 3 \div 6$$

#### Starting torque

$$T_s = T_n \times 2 \div 3 \times \left( \frac{U_s}{U_n} \right)^2 = T_n \times 1 \div 1,5$$

### Autotransformer

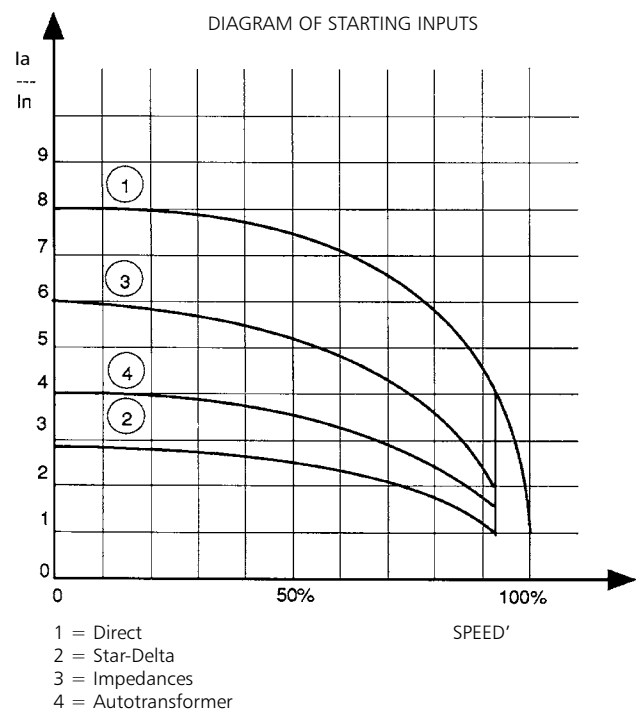
The pump is started with a voltage which is lower than the rated one.  
 The Lowara panels use an autotransformer with a voltage that is 70% the value of the line voltage.  
 The switch to the rated voltage occurs without any interruptions of the power supply.  
 Rated voltage  $U_n = 400\text{ V}$

#### Starting current

$$I_s = I_n \times 4 \div 8 \times \left( \frac{U_s}{U_n} \right) = I_n \times 3 \div 6$$

#### Starting torque

$$T_s = T_n \times 2 \div 3 \times \left( \frac{U_s}{U_n} \right)^2 = T_n \times 1 \div 1,5$$



## WATER REQUIREMENTS IN CIVIL USERS

Determination of the water requirement depends on the type of users and contemporaneity factor. The calculation may be subject to regulations, standards or customs that may vary from country to country. The calculation method shown below is an example based on practical experience, designed to provide a reference value and not a substitute for detailed analytical calculation.

### Water requirements in condominiums.

The **consumption table** shows the maximum values for each delivery point, depending on the plumbing amenities.

## MAXIMUM CONSUMPTION FOR EACH DELIVERY POINT

TYPE	CONSUMPTION (l/min)
Sink	9
Dishwasher	10
Washing machine	12
Shower	12
Bathtub	15
Washbasin	6
Bidet	6
Flush tank WC	6
Controlled flushing system WC	90

The **sum of the water consumption values** of each delivery point determines the maximum theoretical requirement, which must be reduced according to the **contemporaneity coefficient**, because in actual fact the delivery points are never used all together.

$f = \frac{1}{\sqrt{(0,857 \times Nr \times Na)}}$	Coefficient for apartments with one bathroom and flush tank WC
$f = \frac{1}{\sqrt{(0,857 \times Nr \times Na)}}$	Coefficient for apartments with one bathroom and controlled flushing system WC
$f = \frac{1,03}{\sqrt{(0,545 \times Nr \times Na)}}$	Coefficient for apartments with two bathrooms and flush tank WC
$f = \frac{0,8}{\sqrt{(0,727 \times Nr \times Na)}}$	Coefficient for apartments with two bathrooms and controlled flushing system WC
f= coefficient; Nr= number of delivery points; Na= number of apartments	

The **table of water requirements in civil users** shows the maximum contemporaneity flow-rate values based on the **number of apartments** and the type of WC for apartments with one bathroom and two bathrooms. As regards apartments with one bathroom, 7 drawing points have been taken into consideration, while 11 points have been considered for apartments with two bathrooms. If the number of drawing points or apartments is different, use the formulas to **calculate** the requirement.

## TABLE OF WATER REQUIREMENTS IN CIVIL USERS

NUMBER OF APARTMENTS	WITH FLUSH TANK WC		WITH CONTROLLED FLUSHING SYSTEM WC	
	1	2	1	2
	FLOW RATE (l/min)			
1	32	40	60	79
2	45	56	85	111
3	55	68	105	136
4	63	79	121	157
5	71	88	135	176
6	78	97	148	193
7	84	105	160	208
8	90	112	171	223
9	95	119	181	236
10	100	125	191	249
11	105	131	200	261
12	110	137	209	273
13	114	143	218	284
14	119	148	226	295
15	123	153	234	305
16	127	158	242	315
17	131	163	249	325
18	134	168	256	334
19	138	172	263	343
20	142	177	270	352
21	145	181	277	361
22	149	185	283	369
23	152	190	290	378
24	155	194	296	386
25	158	198	302	394
26	162	202	308	401
27	165	205	314	409
28	168	209	320	417
29	171	213	325	424
30	174	217	331	431
35	187	234	357	466
40	200	250	382	498
45	213	265	405	528
50	224	280	427	557
55	235	293	448	584
60	245	306	468	610
65	255	319	487	635
70	265	331	506	659
75	274	342	523	682
80	283	354	540	704
85	292	364	557	726
90	301	375	573	747
95	309	385	589	767
100	317	395	604	787
120	347	433	662	863
140	375	468	715	932
160	401	500	764	996
180	425	530	811	1056
200	448	559	854	1114

For seaside resorts, a flow rate increased by at least 20% must be considered.

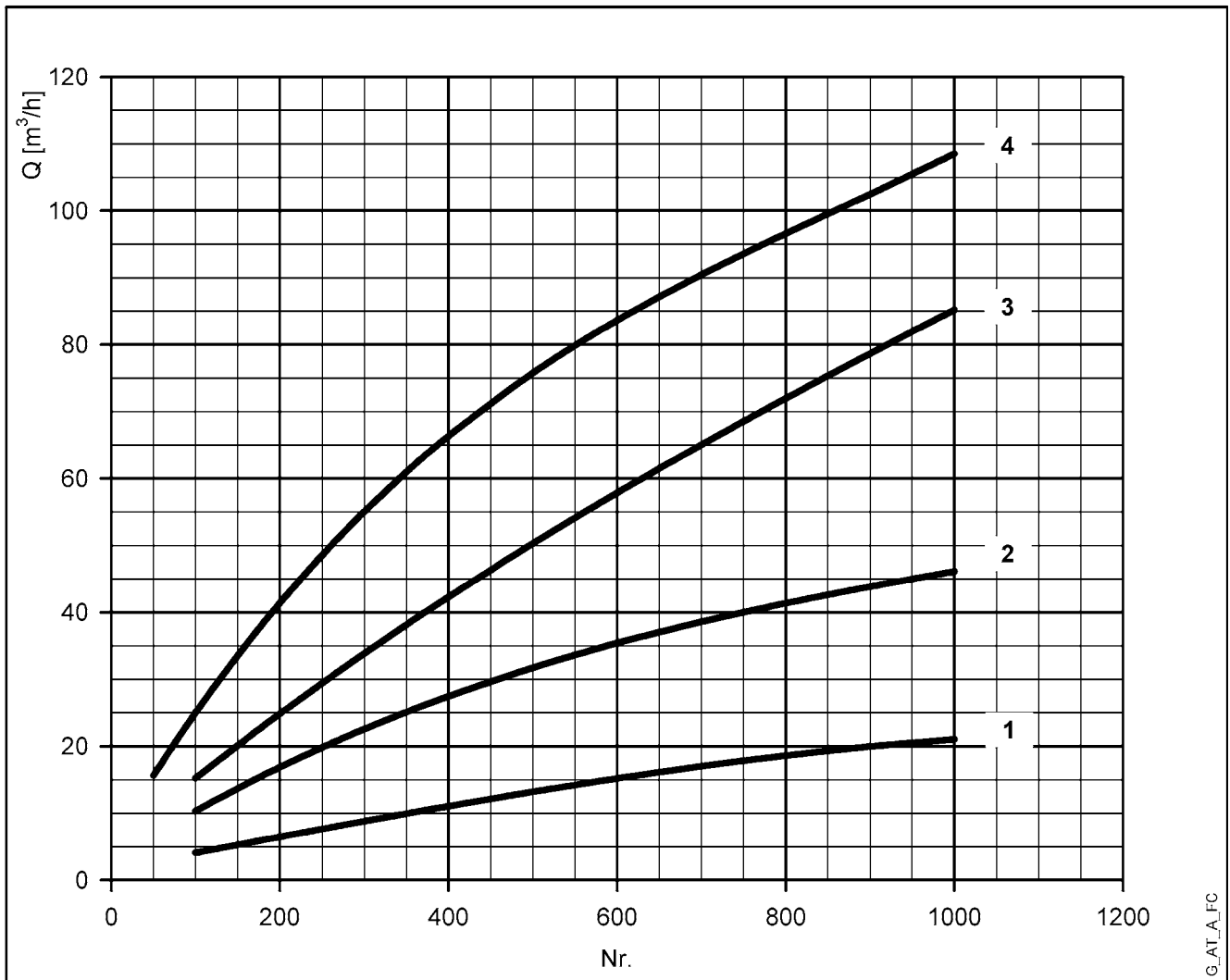
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## WATER REQUIREMENTS FOR COMMUNITY BUILDINGS

The requirements of buildings intended for specific uses, such as **offices, residential units, hotels, department stores, nursing homes** and so on, are different from those of condominiums, and both their global daily water consumption and the maximum contemporaneity flow rate are usually greater.

The **diagram of water requirements for community buildings** shows the maximum contemporaneity flow rate of some types of communities, for guidance.

These requirements must be determined case by case with the utmost accuracy, using analytical calculation methods, according to particular needs and local provisions.



For seaside resorts, the flow rate must be increased by at least 20%.

- 1= Offices (N. of people)
- 2= Department stores (N. of people)
- 3= Nursing homes (N. of beds)
- 4= Hotels, residences (N. of beds)



## NPSH

The minimum operating values that can be reached at the pump suction end are limited by the onset of cavitation.

Cavitation is the formation of vapour-filled cavities within liquids where the pressure is locally reduced to a critical value, or where the local pressure is equal to, or just below the vapour pressure of the liquid.

The vapour-filled cavities flow with the current and when they reach a higher pressure area the vapour contained in the cavities condenses. The cavities collide, generating pressure waves that are transmitted to the walls. These, being subjected to stress cycles, gradually become deformed and yield due to fatigue. This phenomenon, characterized by a metallic noise produced by the hammering on the pipe walls, is called incipient cavitation.

The damage caused by cavitation may be magnified by electrochemical corrosion and a local rise in temperature due to the plastic deformation of the walls. The materials that offer the highest resistance to heat and corrosion are alloy steels, especially austenitic steel. The conditions that trigger cavitation may be assessed by calculating the total net suction head, referred to in technical literature with the acronym NPSH (Net Positive Suction Head).

The NPSH represents the total energy (expressed in m.) of the liquid measured at suction under conditions of incipient cavitation, excluding the vapour pressure (expressed in m.) that the liquid has at the pump inlet.

To find the static height  $h_z$  at which to install the machine under safe conditions, the following formula must be verified:

$$h_p + h_z \geq (\text{NPSHr} + 0.5) + h_f + h_{pv} \quad \textcircled{1}$$

where:

**$h_p$**  is the absolute pressure applied to the free liquid surface in the suction tank, expressed in m. of liquid;  $h_p$  is the quotient between the barometric pressure and the specific weight of the liquid.

**$h_z$**  is the suction lift between the pump axis and the free liquid surface in the suction tank, expressed in m.;  $h_z$  is negative when the liquid level is lower than the pump axis.

**$h_f$**  is the flow resistance in the suction line and its accessories, such as: fittings, foot valve, gate valve, elbows, etc.

**$h_{pv}$**  is the vapour pressure of the liquid at the operating temperature, expressed in m. of liquid.  $h_{pv}$  is the quotient between the  $P_v$  vapour pressure and the liquid's specific weight.

**0,5** is the safety factor.

The maximum possible suction head for installation depends on the value of the atmospheric pressure (i.e. the elevation above sea level at which the pump is installed) and the temperature of the liquid.

To help the user, with reference to water temperature (4° C) and to the elevation above sea level, the following tables show the drop in hydraulic pressure head in relation to the elevation above sea level, and the suction loss in relation to temperature.

Water temperature (°C)	20	40	60	80	90	110	120
Suction loss (m)	0,2	0,7	2,0	5,0	7,4	15,4	21,5

Elevation above sea level (m)	500	1000	1500	2000	2500	3000
Suction loss (m)	0,55	1,1	1,65	2,2	2,75	3,3

Friction loss is shown in the tables at pages 117-118 of this catalogue. To reduce it to a minimum, especially in cases of high suction head (over 4-5 m.) or within the operating limits with high flow rates, we recommend using a suction line having a larger diameter than that of the pump's suction port. It is always a good idea to position the pump as close as possible to the liquid to be pumped.

Make the following calculation:

Liquid: water at ~15°C  $\gamma = 1 \text{ kg/dm}^3$

Flow rate required: 30 m<sup>3</sup>/h

Head for required delivery: 43 m.

Suction lift: 3,5 m.

The selection is an FHE 40-200/75 pump whose NPSH required value is, at 30 m<sup>3</sup>/h, di 2,5 m.

For water at 15 °C

$$h_p = P_a / \gamma = 10,33\text{m}, h_{pv} = P_v / \gamma = 0,174\text{m} (0,01701 \text{ bar})$$

The  $H_f$  flow resistance in the suction line with foot valves is ~ 1,2 m.

By substituting the parameters in formula  $\textcircled{1}$  with the numeric values above, we have:

$$10,33 + (-3,5) \geq (2,5 + 0,5) + 1,2 + 0,17$$

from which we have: 6,8 > 4,4

The relation is therefore verified.

**TECHNICAL APPENDIX VAPOUR PRESSURE  $p_s$  VAPOUR PRESSURE AND  $\rho$  DENSITY OF WATER TABLE**

t °C	T K	$p_s$ bar	$\rho$ kg/dm <sup>3</sup>	t °C	T K	$p_s$ bar	$\rho$ kg/dm <sup>3</sup>	t °C	T K	$p_s$ bar	$\rho$ kg/dm <sup>3</sup>
0	273,15	0,00611	0,9998	55	328,15	0,15741	0,9857	120	393,15	1,9854	0,9429
1	274,15	0,00657	0,9999	56	329,15	0,16511	0,9852	122	395,15	2,1145	0,9412
2	275,15	0,00706	0,9999	57	330,15	0,17313	0,9846	124	397,15	2,2504	0,9396
3	276,15	0,00758	0,9999	58	331,15	0,18147	0,9842	126	399,15	2,3933	0,9379
4	277,15	0,00813	1,0000	59	332,15	0,19016	0,9837	128	401,15	2,5435	0,9362
5	278,15	0,00872	1,0000	60	333,15	0,1992	0,9832	130	403,15	2,7013	0,9346
6	279,15	0,00935	1,0000	61	334,15	0,2086	0,9826	132	405,15	2,867	0,9328
7	280,15	0,01001	0,9999	62	335,15	0,2184	0,9821	134	407,15	3,041	0,9311
8	281,15	0,01072	0,9999	63	336,15	0,2286	0,9816	136	409,15	3,223	0,9294
9	282,15	0,01147	0,9998	64	337,15	0,2391	0,9811	138	411,15	3,414	0,9276
10	283,15	0,01227	0,9997	65	338,15	0,2501	0,9805	140	413,15	3,614	0,9258
11	284,15	0,01312	0,9997	66	339,15	0,2615	0,9799	145	418,15	4,155	0,9214
12	285,15	0,01401	0,9996	67	340,15	0,2733	0,9793	155	428,15	5,433	0,9121
13	286,15	0,01497	0,9994	68	341,15	0,2856	0,9788	160	433,15	6,181	0,9073
14	287,15	0,01597	0,9993	69	342,15	0,2984	0,9782	165	438,15	7,008	0,9024
15	288,15	0,01704	0,9992	70	343,15	0,3116	0,9777	170	443,15	7,920	0,8973
16	289,15	0,01817	0,9990	71	344,15	0,3253	0,9770	175	448,15	8,924	0,8921
17	290,15	0,01936	0,9988	72	345,15	0,3396	0,9765	180	453,15	10,027	0,8869
18	291,15	0,02062	0,9987	73	346,15	0,3543	0,9760	185	458,15	11,233	0,8815
19	292,15	0,02196	0,9985	74	347,15	0,3696	0,9753	190	463,15	12,551	0,8760
20	293,15	0,02337	0,9983	75	348,15	0,3855	0,9748	195	468,15	13,987	0,8704
21	294,15	0,24850	0,9981	76	349,15	0,4019	0,9741	200	473,15	15,550	0,8647
22	295,15	0,02642	0,9978	77	350,15	0,4189	0,9735	205	478,15	17,243	0,8588
23	296,15	0,02808	0,9976	78	351,15	0,4365	0,9729	210	483,15	19,077	0,8528
24	297,15	0,02982	0,9974	79	352,15	0,4547	0,9723	215	488,15	21,060	0,8467
25	298,15	0,03166	0,9971	80	353,15	0,4736	0,9716	220	493,15	23,198	0,8403
26	299,15	0,03360	0,9968	81	354,15	0,4931	0,9710	225	498,15	25,501	0,8339
27	300,15	0,03564	0,9966	82	355,15	0,5133	0,9704	230	503,15	27,976	0,8273
28	301,15	0,03778	0,9963	83	356,15	0,5342	0,9697	235	508,15	30,632	0,8205
29	302,15	0,04004	0,9960	84	357,15	0,5557	0,9691	240	513,15	33,478	0,8136
30	303,15	0,04241	0,9957	85	358,15	0,5780	0,9684	245	518,15	36,523	0,8065
31	304,15	0,04491	0,9954	86	359,15	0,6011	0,9678	250	523,15	39,776	0,7992
32	305,15	0,04753	0,9951	87	360,15	0,6249	0,9671	255	528,15	43,246	0,7916
33	306,15	0,05029	0,9947	88	361,15	0,6495	0,9665	260	533,15	46,943	0,7839
34	307,15	0,05318	0,9944	89	362,15	0,6749	0,9658	265	538,15	50,877	0,7759
35	308,15	0,05622	0,9940	90	363,15	0,7011	0,9652	270	543,15	55,058	0,7678
36	309,15	0,05940	0,9937	91	364,15	0,7281	0,9644	275	548,15	59,496	0,7593
37	310,15	0,06274	0,9933	92	365,15	0,7561	0,9638	280	553,15	64,202	0,7505
38	311,15	0,06624	0,9930	93	366,15	0,7849	0,9630	285	558,15	69,186	0,7415
39	312,15	0,06991	0,9927	94	367,15	0,8146	0,9624	290	563,15	74,461	0,7321
40	313,15	0,07375	0,9923	95	368,15	0,8453	0,9616	295	568,15	80,037	0,7223
41	314,15	0,07777	0,9919	96	369,15	0,8769	0,9610	300	573,15	85,927	0,7122
42	315,15	0,08198	0,9915	97	370,15	0,9094	0,9602	305	578,15	92,144	0,7017
43	316,15	0,09639	0,9911	98	371,15	0,9430	0,9596	310	583,15	98,70	0,6906
44	317,15	0,09100	0,9907	99	372,15	0,9776	0,9586	315	588,15	105,61	0,6791
45	318,15	0,09582	0,9902	100	373,15	1,0133	0,9581	320	593,15	112,89	0,6669
46	319,15	0,10086	0,9898	102	375,15	1,0878	0,9567	325	598,15	120,56	0,6541
47	320,15	0,10612	0,9894	104	377,15	1,1668	0,9552	330	603,15	128,63	0,6404
48	321,15	0,11162	0,9889	106	379,15	1,2504	0,9537	340	613,15	146,05	0,6102
49	322,15	0,11736	0,9884	108	381,15	1,3390	0,9522	350	623,15	165,35	0,5743
50	323,15	0,12335	0,9880	110	383,15	1,4327	0,9507	360	633,15	186,75	0,5275
51	324,15	0,12961	0,9876	112	385,15	1,5316	0,9491	370	643,15	210,54	0,4518
52	325,15	0,13613	0,9871	114	387,15	1,6362	0,9476	374,15	647,30	221,20	0,3154
53	326,15	0,14293	0,9862	116	389,15	1,7465	0,9460				
54	327,15	0,15002	0,9862	118	391,15	1,8628	0,9445				

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### TABLE OF FLOW RESISTANCE IN 100 m OF STRAIGHT CAST IRON PIPELINE (HAZEN-WILLIAMS FORMULA C=100)

FLOW RATE			NOMINAL DIAMETER in mm and inches																
m <sup>3</sup> /h	l/min		15 1/2"	20 3/4"	25 1"	32 1 1/4"	40 1 1/2"	50 2	65 2 1/2"	80 3"	100 4"	125 5"	150 6"	175 7"	200 8"	250 10"	300 12"	350 14"	400 16"
0,6	10	v hr	0,94 16	0,53 3,94	0,34 1,33	0,21 0,40	0,13 0,13												
0,9	15	v hr	1,42 33,9	0,80 8,35	0,51 2,82	0,31 0,85	0,20 0,29												
1,2	20	v hr	1,89 57,7	1,06 14,21	0,68 4,79	0,41 1,44	0,27 0,49	0,17 0,16											
1,5	25	v hr	2,36 87,2	1,33 21,5	0,85 7,24	0,52 2,18	0,33 0,73	0,21 0,25											
1,8	30	v hr	2,83 122	1,59 30,1	1,02 10,1	0,62 3,05	0,40 1,03	0,25 0,35											
2,1	35	v hr	3,30 162	1,86 40,0	1,19 13,5	0,73 4,06	0,46 1,37	0,30 0,46											
2,4	40	v hr		2,12 51,2	1,36 17,3	0,83 5,19	0,53 1,75	0,34 0,59	0,20 0,16										
3	50	v hr		2,65 77,4	1,70 26,1	1,04 7,85	0,66 2,65	0,42 0,89	0,25 0,25										
3,6	60	v hr		3,18 108	2,04 36,6	1,24 11,0	0,80 3,71	0,51 1,25	0,30 0,35										
4,2	70	v hr		3,72 144	2,38 48,7	1,45 14,6	0,93 4,93	0,59 1,66	0,35 0,46										
4,8	80	v hr		4,25 185	2,72 62,3	1,66 18,7	1,06 6,32	0,68 2,13	0,40 0,59										
5,4	90	v hr			3,06 77,5	1,87 23,3	1,19 7,85	0,76 2,65	0,45 0,74	0,30 0,27									
6	100	v hr			3,40 94,1	2,07 28,3	1,33 9,54	0,85 3,22	0,50 0,90	0,33 0,33									
7,5	125	v hr			4,25 142	2,59 42,8	1,66 14,4	1,06 4,86	0,63 1,36	0,41 0,49									
9	150	v hr				3,11 59,9	1,99 20,2	1,27 6,82	0,75 1,90	0,50 0,69	0,32 0,23								
10,5	175	v hr				3,63 79,7	2,32 26,9	1,49 9,07	0,88 2,53	0,58 0,92	0,37 0,31								
12	200	v hr				4,15 102	2,65 34,4	1,70 11,6	1,01 3,23	0,66 1,18	0,42 0,40								
15	250	v hr				5,18 154	3,32 52,0	2,12 17,5	1,26 4,89	0,83 1,78	0,53 0,60	0,34 0,20							
18	300	v hr					3,98 72,8	2,55 24,6	1,51 6,85	1,00 2,49	0,64 0,84	0,41 0,28							
24	400	v hr					5,31 124	3,40 41,8	2,01 11,66	1,33 4,24	0,85 1,43	0,54 0,48	0,38 0,20						
30	500	v hr					6,63 187	4,25 63,2	2,51 17,6	1,66 6,41	1,06 2,16	0,68 0,73	0,47 0,30						
36	600	v hr						5,10 88,6	3,02 24,7	1,99 8,98	1,27 3,03	0,82 1,02	0,57 0,42	0,42 0,20					
42	700	v hr						5,94 118	3,52 32,8	2,32 11,9	1,49 4,03	0,95 1,36	0,66 0,56	0,49 0,26					
48	800	v hr						6,79 151	4,02 42,0	2,65 15,3	1,70 5,16	1,09 1,74	0,75 0,72	0,55 0,34					
54	900	v hr						7,64 188	4,52 52,3	2,99 19,0	1,91 6,41	1,22 2,16	0,85 0,89	0,62 0,42					
60	1000	v hr							5,03 63,5	3,32 23,1	2,12 7,79	1,36 2,63	0,94 1,08	0,69 0,51	0,53 0,27				
75	1250	v hr							6,28 96,0	4,15 34,9	2,65 11,8	1,70 3,97	1,18 1,63	0,87 0,77	0,66 0,40				
90	1500	v hr							7,54 134	4,98 48,9	3,18 16,5	2,04 5,57	1,42 2,29	1,04 1,08	0,80 0,56				
105	1750	v hr							8,79 179	5,81 65,1	3,72 21,9	2,38 7,40	1,65 3,05	1,21 1,44	0,93 0,75				
120	2000	v hr							6,63 83,3	4,25 28,1	2,72 9,48	1,89 3,90	1,39 1,84	1,06 0,96	0,68 0,32				
150	2500	v hr							8,29 126	5,31 42,5	3,40 14,3	2,36 5,89	1,73 2,78	1,33 1,45	0,85 0,49				
180	3000	v hr								6,37 59,5	4,08 20,1	2,83 8,26	2,08 3,90	1,59 2,03	1,06 0,69	0,71 0,28			
210	3500	v hr								7,43 79,1	4,76 26,7	3,30 11,0	2,43 5,18	1,86 2,71	1,19 0,91	0,83 0,38			
240	4000	v hr								8,49 101	5,44 34,2	3,77 14,1	2,77 6,64	2,12 3,46	1,36 1,17	0,94 0,48			
300	5000	v hr									6,79 51,6	4,72 21,2	3,47 10,0	2,65 5,23	1,70 1,77	1,18 0,73			
360	6000	v hr									8,15 72,3	5,66 14,1	4,16 7,33	3,18 7,33	2,04 2,47	1,42 1,02			
420	7000	v hr										6,61 39,6	4,85 18,7	3,72 9,75	2,38 3,29	1,65 1,35	1,21 0,64		
480	8000	v hr										7,55 50,7	5,55 23,9	4,25 12,49	2,72 4,21	1,89 1,73	1,39 0,82		
540	9000	v hr										8,49 63,0	6,24 29,8	4,78 15,5	3,06 5,24	2,12 2,16	1,56 1,02	1,19 0,53	
600	10000	v hr											6,93 36,2	5,31 18,9	3,40 6,36	2,36 2,62	1,73 1,24	1,33 0,65	

hr = flow resistance for 100 m of straight pipeline (m)

V = water speed (m/s)

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## FLOW RESISTANCE

### TABLE OF FLOW RESISTANCE IN BENDS, VALVES AND GATES

The flow resistance is calculated using the equivalent pipeline length method according to the table below:

ACCESSORY TYPE	DN											
	25	32	40	50	65	80	100	125	150	200	250	300
	Equivalent pipeline length (m)											
45° bend	0,2	0,2	0,4	0,4	0,6	0,6	0,9	1,1	1,5	1,9	2,4	2,8
90° bend	0,4	0,6	0,9	1,1	1,3	1,5	2,1	2,6	3,0	3,9	4,7	5,8
90° smooth bend	0,4	0,4	0,4	0,6	0,9	1,1	1,3	1,7	1,9	2,8	3,4	3,9
Union tee or cross	1,1	1,3	1,7	2,1	2,6	3,2	4,3	5,3	6,4	7,5	10,7	12,8
Gate valve	-	-	-	0,2	0,2	0,2	0,4	0,4	0,6	0,9	1,1	1,3
Foot check valve	1,1	1,5	1,9	2,4	3,0	3,4	4,7	5,9	7,4	9,6	11,8	13,9
Non return valve	1,1	1,5	1,9	2,4	3,0	3,4	4,7	5,9	7,4	9,6	11,8	13,9

G-a-pcv-en\_b\_th

The table is valid for the Hazen Williams coefficient  $C = 100$  (cast iron pipework):

-For steel pipework, multiply the values by 1.41.

-For stainless steel, copper and coated cast iron pipework, multiply the values by 1.85.

When the **equivalent pipeline length** has been determined, the flow resistance is obtained from the table of flow resistance.

The values given are guideline values which are bound to vary slightly according to the model, especially for gate valves and non-return valves, for which it is a good idea to check the values supplied by the manufacturers.

## VOLUMETRIC CAPACITY

Litres per minute l/min	Cubic metres per hour m <sup>3</sup> /h	Cubic feet per hour ft <sup>3</sup> /h	Cubic feet per minute ft <sup>3</sup> /min	Imperial gallon per minute Imp. gal/min	U.S. gallon per minute US gal/min
<b>1,000</b>	0,0600	2,1189	0,0353	0,2200	0,2642
16,6667	<b>1,0000</b>	35,3147	0,5886	3,6662	4,4029
0,4719	0,0283	<b>1,0000</b>	0,0167	0,1038	0,1247
28,3168	1,6990	60,0000	<b>1,0000</b>	6,2288	7,4805
4,5461	0,2728	9,6326	0,1605	<b>1,0000</b>	1,2009
3,7854	0,2271	8,0208	0,1337	0,8327	<b>1,0000</b>

## PRESSURE AND HEAD

Newton per square metre N/m <sup>2</sup>	kilo Pascal kPa	bar bar	Pound force per square inch psi	Metre of water m H <sub>2</sub> O	Millimetre of mercury mm Hg
<b>1,0000</b>	0,0010	$1 \times 10^{-5}$	$1,45 \times 10^{-4}$	$1,02 \times 10^{-4}$	0,0075
1 000,0000	<b>1,0000</b>	0,0100	0,1450	0,1020	7,5006
$1 \times 10^5$	100,0000	<b>1,0000</b>	14,5038	10,1972	750,0638
6 894,7570	6,8948	0,0689	<b>1,0000</b>	0,7031	51,7151
9 806,6500	9,8067	0,0981	1,4223	<b>1,0000</b>	73,5561
133,3220	0,1333	0,0013	0,0193	0,0136	<b>1,0000</b>

## LENGTH

Millimetre mm	Centimetre cm	Metre m	Inch in	Foot ft	Yard yd
<b>1,0000</b>	0,1000	0,0010	0,0394	0,0033	0,0011
10,0000	<b>1,0000</b>	0,0100	0,3937	0,0328	0,0109
1 000,0000	100,0000	<b>1,0000</b>	39,3701	3,2808	1,0936
25,4000	2,5400	0,0254	<b>1,0000</b>	0,0833	0,0278
304,8000	30,4800	0,3048	12,0000	<b>1,0000</b>	0,3333
914,4000	91,4400	0,9144	36,0000	3,0000	<b>1,0000</b>

## VOLUME

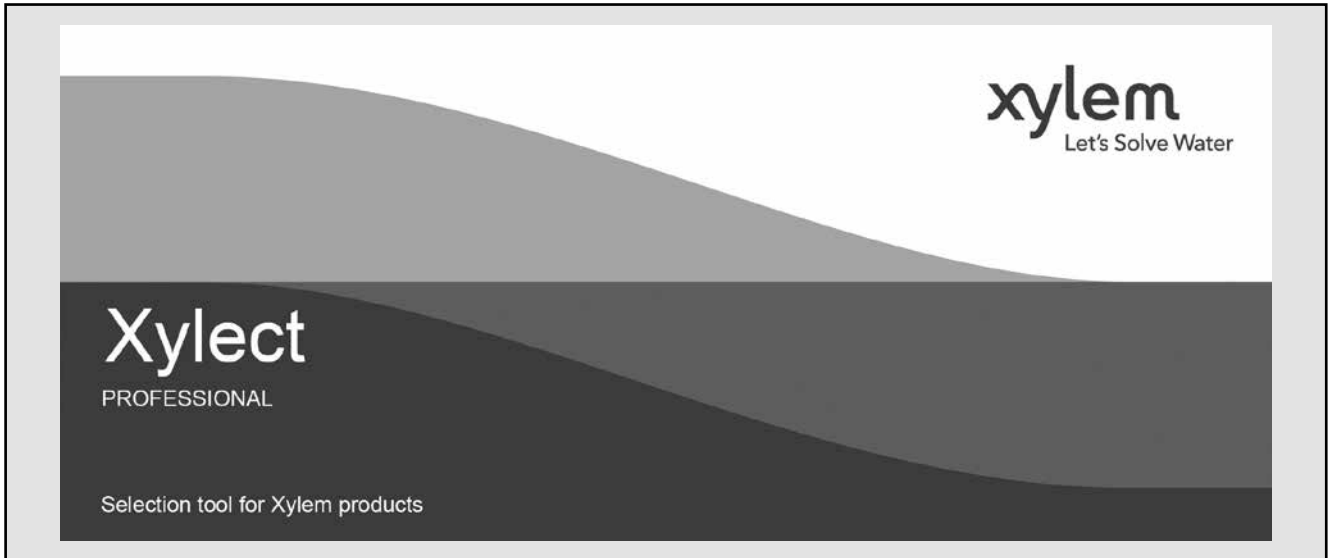
Cubic metre m <sup>3</sup>	Litre L	Millilitre ml	Imperial gallon imp. gal.	U.S. gallon US gal.	Cubic foot ft <sup>3</sup>
<b>1,0000</b>	1 000,0000	$1 \times 10^6$	219,9694	264,1720	35,3147
0,0010	<b>1,0000</b>	1 000,0000	0,2200	0,2642	0,0353
$1 \times 10^{-6}$	0,0010	<b>1,0000</b>	$2,2 \times 10^{-4}$	$2,642 \times 10^{-4}$	$3,53 \times 10^{-5}$
0,0045	4,5461	4 546,0870	<b>1,0000</b>	1,2009	0,1605
0,0038	3,7854	3 785,4120	0,8327	<b>1,0000</b>	0,1337
0,0283	28,3168	28 316,8466	6,2288	7,4805	<b>1,0000</b>

## TEMPERATURE

Water	Kelvin K	Celsius °C	Fahrenheit °F	$^{\circ}\text{F} = ^{\circ}\text{C} \times \frac{9}{5} + 32$ $^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times \frac{5}{9}$
icing	273,1500	0,0000	32,0000	
boiling	373,1500	100,0000	212,0000	

G-at\_pp-en\_b\_sc

## FURTHER PRODUCT SELECTION AND DOCUMENTATION Xylect™



Xylect™ is pump solution selection software with an extensive online database of product information across the entire Lowara range of pumps and related products, with multiple search options and helpful project management facilities. The system holds up-to-date product information on thousands of products and accessories.

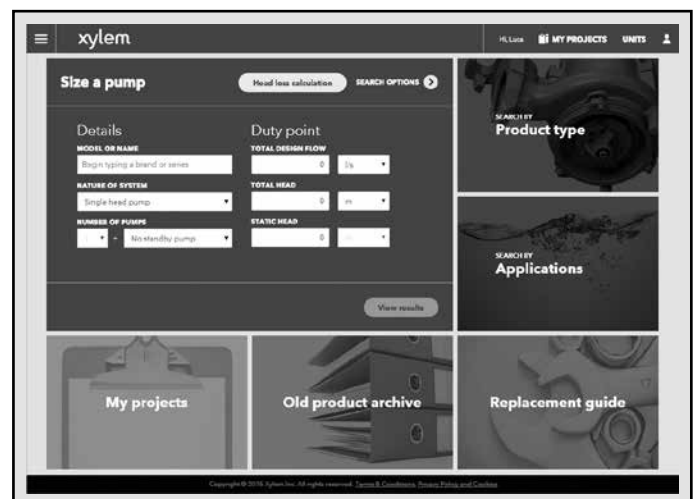
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara products.

The search can be made by:

- Application
- Product type
- Duty point

Xylect™ gives a detailed output:

- List with search results
- Performance curves (flow, head, power, efficiency, NPSH)
- Motor data
- Dimensional drawings
- Options
- Data sheet printouts
- Document downloads incl dxf files



The search by application guides users not familiar with the product range to the right choice.

## FURTHER PRODUCT SELECTION AND DOCUMENTATION

### Xylect™



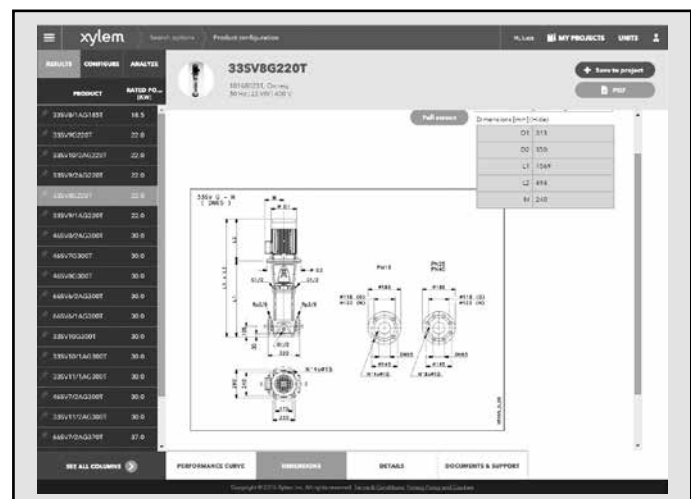
The detailed output makes it easy to select the optimal pump from the given alternatives.

The best way to work with Xylect™ is to create a personal account. This makes it possible to:

- Set own standard units
- Create and save projects
- Share projects with other Xylect™ users

Every registered user has a proper space, where all projects are saved.

For more information about Xylect™ please contact our sales network or visit [www.xylect.com](http://www.xylect.com).



Dimensional drawings appear on the screen and can be downloaded in dxf format.





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# Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services, and agricultural settings. With its October 2016 acquisition of Sensus, Xylem added smart metering, network technologies and advanced data analytics for water, gas and electric utilities to its portfolio of solutions. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

**For more information on how Xylem can help you, go to [www.xylem.com](http://www.xylem.com).**



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