60 Hz

4OS-L4C
L6C-L6W
L8W-L10W-L12W Series

4″ - 6″ - 8″ - 10″ - 12″
SUBMERSIBLE MOTORS

Cod. 191014801 Rev.B Ed.08/2012

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4" Submersible motors

Submersible liquid-cooled motors.
The choice of component materials ensures optimum operating performances, superior quality, reliability and ease of installation.

4OS Series 60 Hz

SPECIFICATIONS

- **Stainless stell** outer sleeve.
- Shaft extension and coupling dimensions to **NEMA** standards.
- **Rewindable stator.**
- Class **F insulation**.
- Protection class: **IP68**.
- **Internal fluid** according to standards for oils in contact with foodstuffs (F.D.A. - FOOD AND DRUG ADMINISTRATION).
- Compensating bellows for internal liquid expansion.
- Axial load supported by angular bearings.
- **Mechanical seal** protected by sand guard.
- Maximum **immersion depth**: 150 m.
- Maximum **number of starts per hour** at regular intervals:
  30 for direct start;
  20 for impedance start.
- Maximum supply **voltage variations** allowed :
  220V -6%; 230V +6%.
  380V ±10%.
- Maximum water **temperature** :
  35°C.
  Max. temperature applies to motors working in a installation capable of delivering a flow of water around the motor jacket of at least 0,08 m/s.
- Water **pH**: 4÷8.
- **Axial thrust**:
  3000 N from 0,37 to 2,2 kW;
  6500 N from 3 to 7,5 kW.
- **Extractable supply cable** fitted with watertight connector.
- **Versions**:
  - Single-phase:
    0,37 to 2,2 kW 220-230 V, 60 Hz
  - Three-phase:
    0,37 to 7,5 kW 220-230 V, 60 Hz
    0,37 to 7,5 kW 380 V, 60 Hz.
- Horizontal operation up to 2,2 kW.
- Inverter applications.

OPTIONAL FEATURES

- Special voltages.

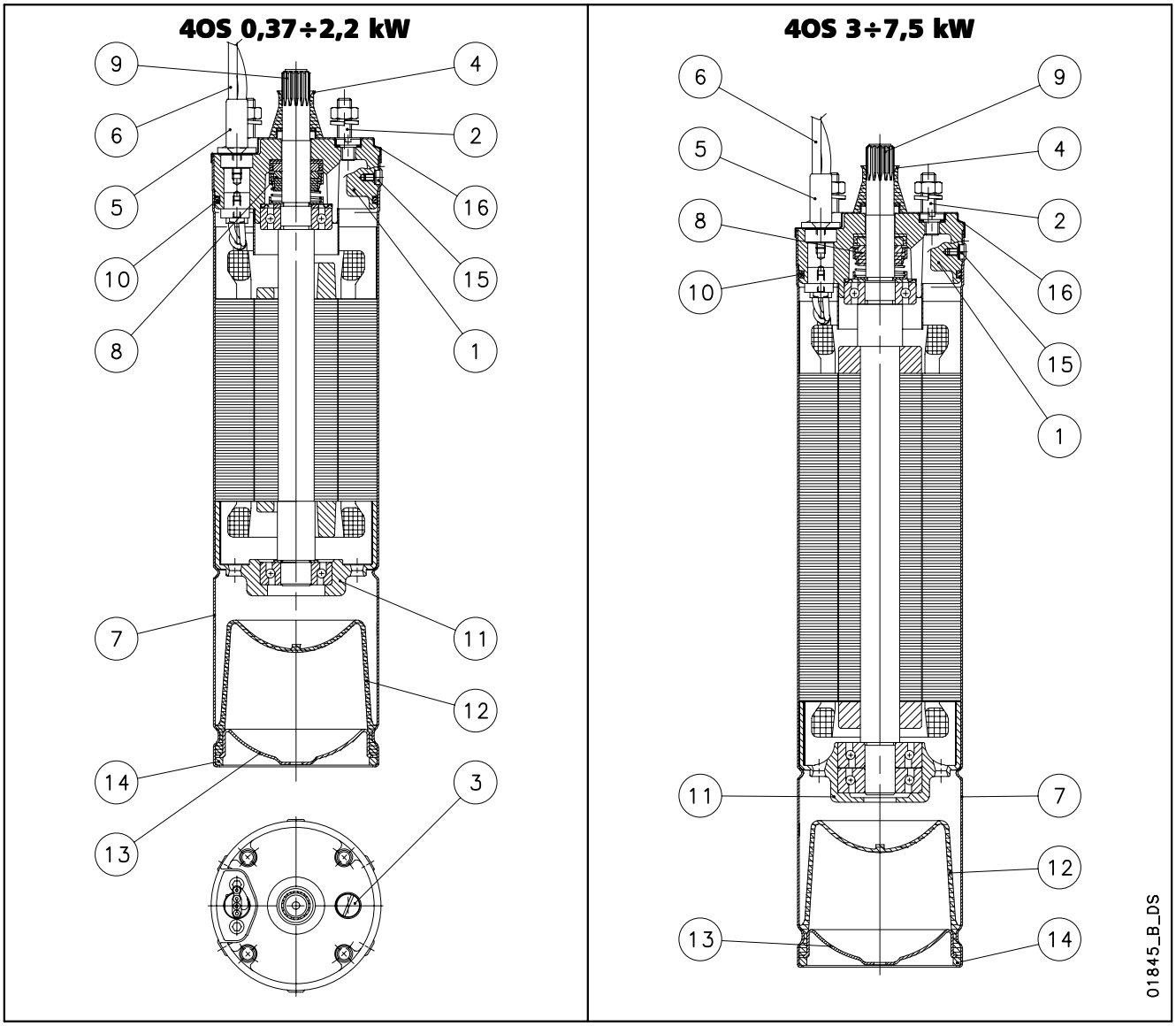
❑ **Rewindable stator**

❑ **Liquid suitable for use with foodstuffs (complies with FDA)**

❑ **High starting torque**

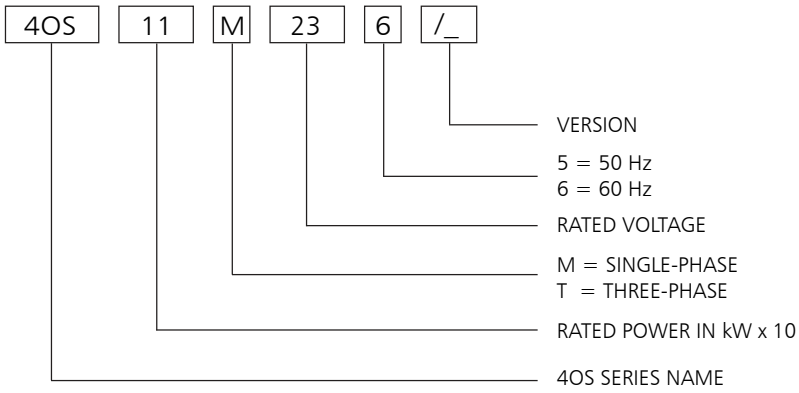
❑ **Power supply cable with extractable connector**

4OS MOTOR SERIES
MOTOR CROSS SECTION AND TABLE OF MATERIALS



REF. N.	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Head	Cast iron	UNI EN 5007 G20	ASTM A159-70-G3500
2	Studs	Stainless steel	EN 10088-3-X5CrNi18-10 (1.4301)	AISI 304
3	Filling screw	Brass	EN12165-CuZn40Pb2 (CW617N)	
4	Sand guard	NBR		
5	Connector sleeve	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Cable	Epdm		
7	Outer sleeve	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
8	Mechanical seal	Carbon / Ceramic		
9	Shaft end for P ≤ 2.2 kW	Stainless steel	EN 10088-3-X8CrNiS18-9 (1.4305)	AISI 303
	Shaft end for 3 ≤ P ≤ 7.5 kW	Stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	ASTM A 182: F51
10	Elastomers	NBR		
11	Lower bracket	Cast iron	UNI EN 5007 G20	ASTM A159-70-G3500
12	Compensating diaphragm	NBR		
13	Lower protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
14	Snap ring	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
15	Screws, nuts, washers	Stainless steel	EN 10088-3-X5CrNi18-10 (1.4301)	AISI 304
16	Upper cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
	Cooling liquid	Non toxic oil		

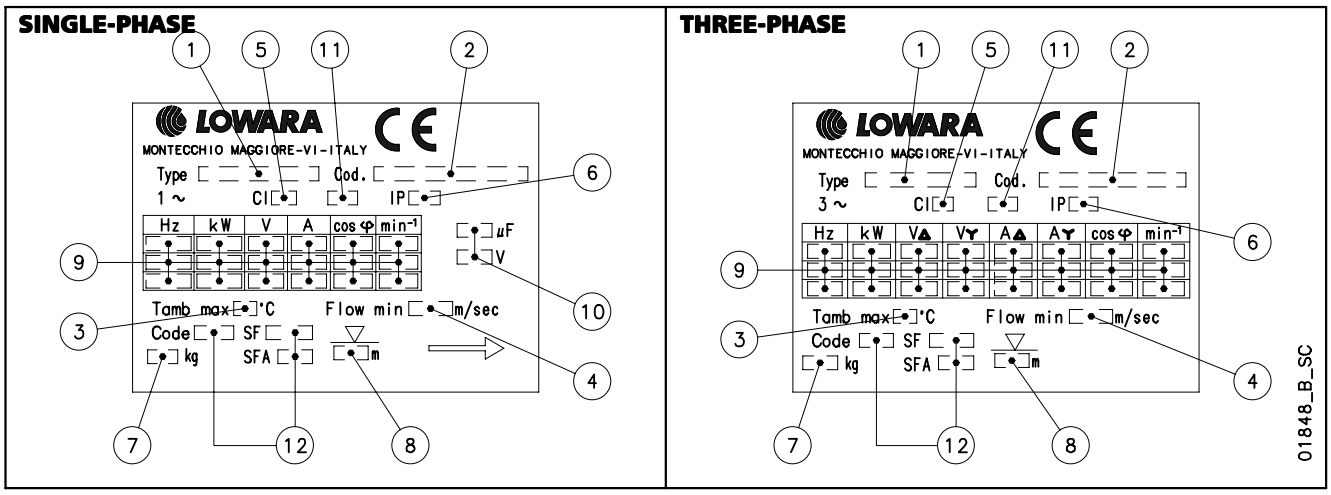
4OS MOTOR SERIES
IDENTIFICATION CODE



EXAMPLE : 4OS11M236/C

4OS MOTOR :
RATED POWER 1,1 kW; SINGLE-PHASE;
RATED VOLTAGE 230 V; 60 Hz; /C VERSION.

RATING PLATE



LEGEND

1 - Motor type
2 - Code
3 - Maximum water temperature
4 - Minimum water velocity
5 - Insulation class
6 - Protection class
7 - Weight
8 - Maximum immersion depht
9 - Operating characteristics
10 - Capacitor type
11 - Service type
12 - Characteristics NEMA MG1 (60Hz)

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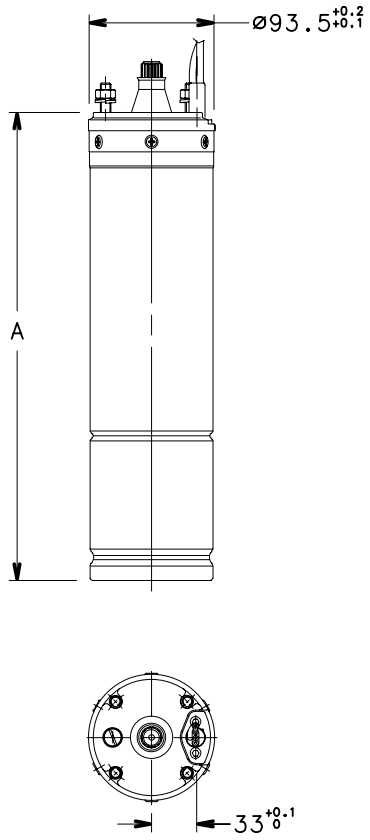
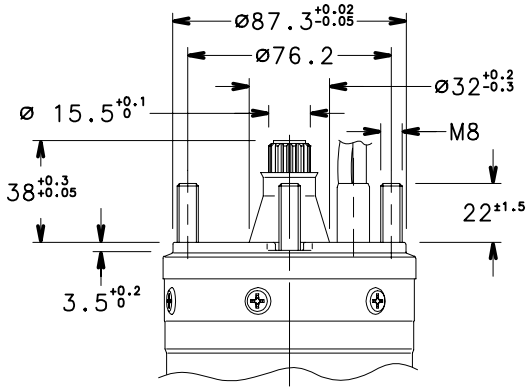
4OS MOTOR SERIES
DIMENSIONS AND WEIGHTS AT 60 Hz





MOTOR TYPE	RATED POWER kW	RATED POWER HP	Max DIMENSIONS mm A	WEIGHT kg
4OS03M236-116	0,37	0,5	355	7,3
4OS03T236-386			334	6,8
4OS05M236-116	0,55	0,75	355	7,9
4OS05T236-386			355	7,3
4OS07M236-116	0,75	1	380	9
4OS07T236-386			355	7,9
4OS11M236-116	1,1	1,5	415	10,9
4OS11T236-386			380	9
4OS15M236	1,5	2	450	12,5
4OS15T236-386			415	11,1
4OS22M236	2,2	3	500	14,8
4OS22T236-386			450	12,6
4OS30T236-386	3	4	450	13,6
4OS40T236-386	4	5,5	570	17,5
4OS55T236-386	5,5	7,5	630	21
4OS75T236-386	7,5	10	836	28,5

4OS-2p60-en_a_td

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SINGLE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE SINGLE-PHASE	RATED POWER kW	RATED POWER HP	RATED VOLTAGE V	CAPACITOR µF	CAPACITOR V	OPERATING CHARACTERISTICS AT RATED POWER A	rpm	η %	cosφ	DIRECT ON-LINE STARTING Is/In	Ts/Tn	Tmax/Tn	SERVICE FACTOR SF	SERVICE FACTOR AMPS SFA	MAX WATER TEMP. °C	CABLE TYPE N x A mm²	L m
4OS03M236	0,37	0,5	220	20	450	3,40	3495	49,7	0,99	4,00	1,23	2,98	1,6	4,50	35	4x1.5	1,75
			230			3,45	3500	47,4	0,98	4,13	1,35	3,26		4,42			
4OS05M236	0,55	0,75	220	25	450	4,66	3445	54,3	0,99	3,26	0,84	2,26	1,5	6,23	35	4x1.5	1,75
			230			4,73	3460	52,2	0,97	3,36	0,92	2,47		6,00			
4OS07M236	0,75	1	220	35	450	5,87	3460	59,8	0,97	3,85	0,74	2,47	1,4	7,41	35	4x1.5	1,75
			230			6,09	3470	56,9	0,94	3,88	0,82	2,72		7,36			
4OS11M236	1,1	1,5	220	40	450	7,61	3450	66,2	0,99	3,64	0,79	2,27	1,3	9,34	35	4x1.5	1,75
			230			7,48	3460	64,4	0,99	3,87	0,87	2,49		9,05			
4OS15M236	1,5	2	220	50	450	10,1	3435	67,8	0,99	3,90	0,63	2,26	1,25	12,2	35	4x1.5	1,75
			230			10,1	3445	66,1	0,97	4,08	0,70	2,49		11,9			
4OS22M236	2,2	3	220	50	450	15,2	3405	70,5	0,93	3,14	0,50	1,79	1,15	17,1	35	4x1.5	2,5
			230			15,7	3420	68,2	0,90	3,18	0,55	1,97		17,1			
4OS03M116	0,37	0,5	110	80	250	6,81	3495	49,8	0,99	4,00	1,23	2,97	1,6	9,02	35	4x1.5	1,75
			115			6,91	3500	47,5	0,98	4,22	1,36	3,32		8,86			
4OS05M116	0,55	0,75	110	100	250	9,68	3480	53,4	0,98	3,63	0,63	2,72	1,5	12,3	35	4x1.5	1,75
			115			10,2	3490	49,9	0,94	3,54	0,67	2,98		12,3			
4OS07M116	0,75	1	110	140	250	11,5	3480	60,7	0,98	4,05	0,56	2,94	1,4	14,5	35	4x1.5	1,75
			115			11,9	3490	57,8	0,95	4,06	0,59	3,02		14,3			
4OS11M116	1,1	1,5	110	160	250	20,1	3465	69,1	0,99	4,05	0,46	2,37	1,3	18,1	35	4x1.5	1,75
			115			14,5	3475	67,3	0,98	4,46	0,49	2,57		17,7			

Ts/Tn = ratio between starting torque and nominal torque.

Tmax/Tn = ratio between maximum torque and nominal torque.

4osm-2p60-en_b_te

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4OS MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE	RATED POWER		RATED VOLTAGE	OPERATING CHARACTERISTICS AT RATED POWER				DIRECT ON-LINE STARTING			SERVICE FACTOR	SERVICE FACTOR AMPS	MAX WATER TEMP.	CABLE TYPE	
														N x A	L
THREE-PHASE	kW	HP	V	A	rpm	η %	cosφ	Is/In	Ts/Tn	Tmax/Tn	SF	SFA	°C	mm²	m
4OS03T236	0,37	0,5	220	2,68	3485	58,5	0,62	6,40	5,71	4,73	1,6	3,17	35	4x1.5	1,75
			230	2,93	3495	56,4	0,56	6,19	6,33	5,25		3,31			
4OS05T236	0,55	0,75	220	3,26	3430	62,3	0,71	5,52	4,40	3,22	1,5	4,00	35	4x1.5	1,75
			230	3,45	3450	61,1	0,65	5,48	4,91	3,59		4,05			
4OS07T236	0,75	1	220	4,54	3450	66,3	0,66	5,58	4,23	3,27	1,4	5,21	35	4x1.5	1,75
			230	5,01	3465	63,7	0,59	5,32	4,69	3,62		5,51			
4OS11T236	1,1	1,5	220	5,66	3425	71,5	0,72	5,45	3,80	2,89	1,3	6,53	35	4x1.5	1,75
			230	6,06	3445	70,1	0,65	5,37	4,24	3,22		6,70			
4OS15T236	1,5	2	220	7,45	3430	74,4	0,71	5,73	3,64	3,01	1,25	8,40	35	4x1.5	1,75
			230	7,98	3445	72,6	0,65	5,62	4,05	3,35		8,73			
4OS22T236	2,2	3	220	10,8	3425	75,7	0,71	5,53	3,63	2,90	1,15	11,6	35	4x1.5	2,5
			230	11,9	3440	72,6	0,64	5,32	4,04	3,22		12,5			
4OS30T236	3	4	220	13,2	3455	76,3	0,79	5,41	2,44	2,79	1,15	14,5	35	4x1,5	2,5
			230	13,8	3470	75,7	0,72	5,46	2,72	3,11		14,8			
40S40T236	4	5,5	220	15,7	3435	78,9	0,85	5,85	1,81	2,70	1,15	17,7	35	4x1.5	2,5
			230	15,7	3455	78,8	0,81	6,17	2,02	3,01		17,4			
40S55T236	5,5	7,5	220	21,4	3415	78,6	0,86	5,48	1,63	2,51	1,15	24,4	35	4x2.5	2,5
			230	21,2	3440	78,5	0,83	5,81	1,82	2,79		23,8			
4OS75T236	7,5	10	220	33,5	3460	78,7	0,75	6,28	2,53	3,41	1,15	36,8	35	4x2.5	4
			230	35,4	3475	77,6	0,68	6,26	2,81	3,79		38,1			
40S03T386	0,37	0,5	380	1,55	3485	58,5	0,62	6,40	5,71	4,73	1,6	1,83	35	4x1.5	1,75
4OS05T386	0,55	0,75	380	1,88	3430	62,3	0,71	5,52	4,40	3,22	1,5	2,31	35	4x1.5	1,75
4OS07T386	0,75	1	380	2,62	3450	66,3	0,66	5,58	4,23	3,27	1,4	3,01	35	4x1.5	1,75
4OS11T386	1,1	1,5	380	3,27	3425	71,5	0,72	5,45	3,80	2,89	1,3	3,77	35	4x1.5	1,75
4OS15T386	1,5	2	380	4,30	3430	74,4	0,71	5,73	3,64	3,01	1,25	4,85	35	4x1.5	1,75
4OS22T386	2,2	3	380	6,25	3425	75,7	0,71	5,53	3,63	2,90	1,15	6,69	35	4x1.5	2,5
4OS30T386	3	4	380	7,61	3455	76,3	0,79	5,41	2,44	2,79	1,15	8,35	35	4x1,5	2,5
4OS40T386	4	5,5	380	9,05	3435	78,9	0,85	5,85	1,81	2,70	1,15	10,2	35	4x1.5	2,5
4OS55T386	5,5	7,5	380	12,3	3415	78,6	0,86	5,48	1,63	2,51	1,15	14,1	35	4x1.5	2,5
4OS75T386	7,5	10	380	19,4	3460	78,7	0,75	6,28	2,53	3,41	1,15	21,2	35	4x1.5	4

Ts/Tn = ratio between starting torque and nominal torque.

Tmax/Tn = ratio between maximum torque and nominal torque.

4ost-2p60-en_b_te

4" Submersible motors

Submersible canned motors.
The choice of component materials ensures optimum operating performances, superior quality, reliability and ease of installation.

L4C Series 60 Hz

SPECIFICATIONS

- **Stainless steel** outer sleeve.
- Shaft extension and coupling dimensions to **NEMA** standards.
- Class **F insulation**.
- Protection class: **IP68**.
- Compensating bellows for internal liquid expansion.
- Axial load supported by Kingsbury type thrust bearing.
- **Lip seal** protected by sand guard.
- Maximum **immersion depth**: 300 m.
- Maximum **number of starts per hour** at regular intervals:
  40 for direct start;
  20 for impedance start.
- Maximum supply **voltage variations** allowed : ±6%.
- Maximum water **temperature**: 35°C.
  Max. temperrature applies to motors working in a installation capable of delivering a flow of water around the motor jacket of at least 0,3 m/s.
- **Axial thrust**:
  2000 N from 0,37 to 1,1 kW;
  3000 N from 1,5 to 2,2 kW;
  6000 N from 3 to 7,5 kW.
- **Extractable supply cable** fitted with watertight connector.
- **Versions**:
  - Single-phase:
    0,37 to 3,7 kW 220-230 V, 60 Hz
    0,37 to 0,75 kW 110-115 V, 60 Hz
    (0,37 to 0,75 kW with built in automatic reset overload protection).
  - Three-phase:
    0,37 to 5,5 kW 220-230 V, 60 Hz
    0,37 to 7,5 kW 380 V, 60 Hz.
- Can also operate in horizontal position, provided that the associated pump can apply an axial thrust of at least 100 N on the entire operating field.

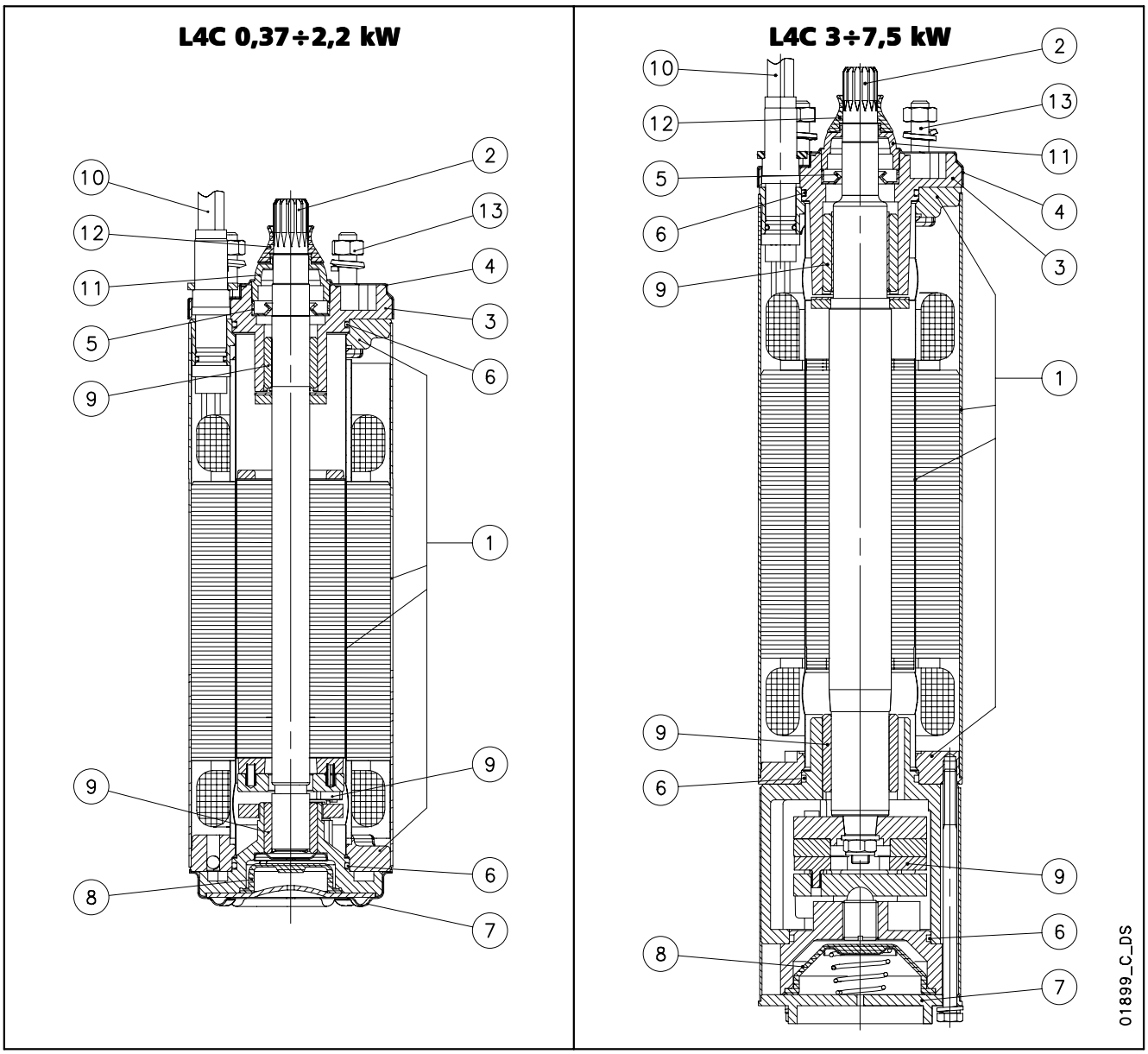
OPTIONAL FEATURES

- Special voltages.
- Inverter applications.

❑ **High starting torque**

❑ **Power supply cable with extractable connector**

L4C MOTOR SERIES
MOTOR CROSS SECTION AND TABLE OF MATERIALS



REF N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Inner, outer sleeves and flanges	Stainless steel	EN 10088-1-X2CrNi18-9 (1.4307)	AISI 304L
2	Shaft extension (up to 2.2 kW)	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
	Shaft extension (from 3 kW)	Stainless steel	EN 10088-3-X3CrNiMoN27 (1.4460)	AISI 329
3	Upper bracket	Cast iron	EN-GJL-200 EN 1561	Class 25 B
4	Upper cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Lip seal	NBR		
6	Elastomers	NBR		
7	Lower cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
8	Compensating bellows	EPDM		
9	Bearings	Carbon-graphite		
10	Cable	EPDM		
11	Fixed sand guard	Nylon		
12	Removable sand guard	NBR		
13	Bolts and screws	Stainless steel	UNI EN ISO 3506-1 Grade A2	
	Cooling liquid	Demineralized water + antifreeze		

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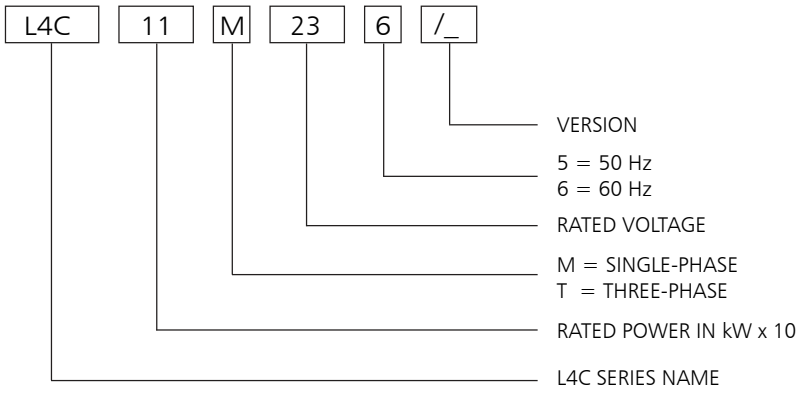
L4C MOTOR SERIES
IDENTIFICATION CODE

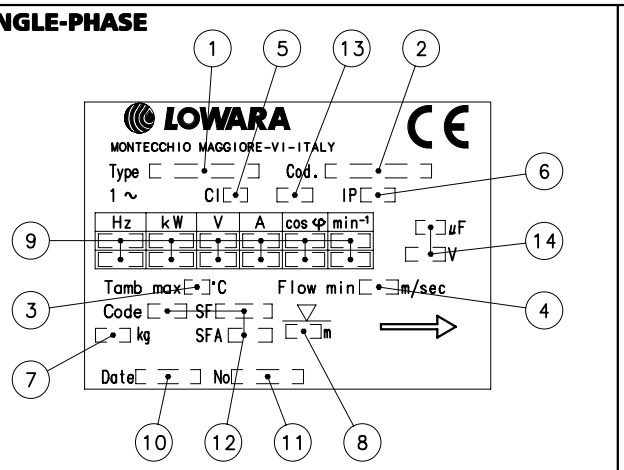


EXAMPLE : L4C11M236

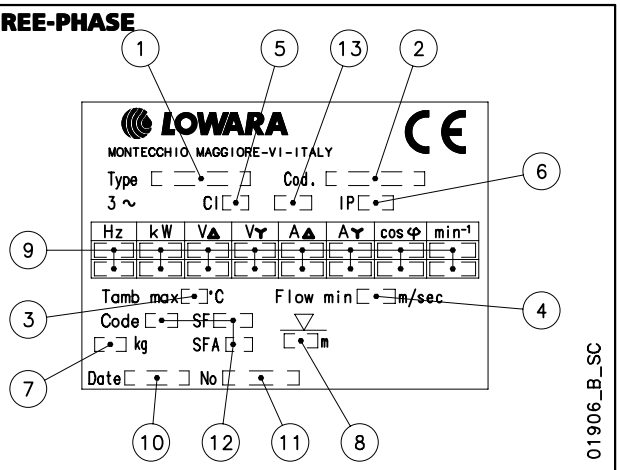
L4C MOTOR :
RATED POWER 1,1 kW; SINGLE-PHASE;
RATED VOLTAGE 230 V; 60 Hz.

RATING PLATE

SINGLE-PHASE



THREE-PHASE



LEGEND

1 - Motor type
2 - Code
3 - Maximum water temperature
4 - Minimum water velocity
5 - Insulation class
6 - Protection class
7 - Weight
8 - Maximum immersion depht
9 - Operating characteristics
10 - Production date
11 - Serial number
12 - Characteristics NEMA MG1 (60Hz)
13 - Service type
14 - Capacitor type

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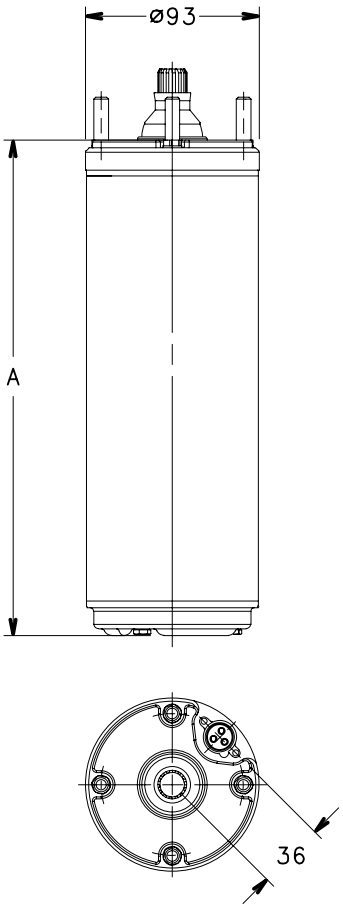
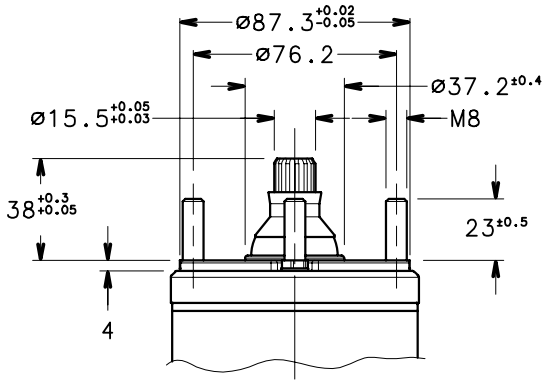
L4C MOTOR SERIES
DIMENSIONS AND WEIGHTS AT 60 Hz





MOTOR TYPE	RATED POWER kW	RATED POWER HP	DIMENSIONS mm A	WEIGHT kg
L4C03M236-116	0,37	0,5	266	8,6
L4C03T386			236	7,9
L4C05M236-116	0,55	0,75	286	9,6
L4C05T386			266	8,7
L4C07M236-116	0,75	1	331	11,7
L4C07T386			286	9,8
L4C11M236	1,1	1,5	391	13,9
L4C11T386			346	11,7
L4C15M236	1,5	2	411	15,2
L4C15T386			391	13,9
L4C22M236	2,2	3	451	17,8
L4C22T386			411	14,8
L4C30T386	3	4	544	21
L4C40M236	4	5,5	684	27,5
L4C40T386	4	5,5	614	23,7
L4C55T386	5,5	7,5	684	26,8
L4C75T386	7,5	10	764	30,2

01900_B_DD

l4c-2p60-en_c_td

SINGLE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE	RATED POWER		SERVICE FACTOR	RATED VOLTAGE	CAPACITOR		OPERATING CHARACTERISTICS AT FULL (S.F.) POWER				DIRECT STARTING		MAX WATER TEMPERATURE	CABLE TYPE	
SINGLE-PHASE	kW	HP	S. F.	V	µF	V	A	rpm	η %	cosφ	Ts/Tn*	Is/In	°C	Nc x sec mm²	L m
L4C03M236	0,37	0,5	1,6	220	20	450	5,3	3460	55,0	0,93	0,60	4,00	35	4x1.5	1,7
				230			5,5	3480	52,0	0,89	0,65	3,87			
L4C05M236	0,55	0,75	1,5	220	25	450	7,0	3460	60,0	0,89	0,60	3,90	35	4x1.5	1,7
				230			7,4	3485	57,0	0,84	0,65	3,70			
L4C07M236	0,75	1	1,4	220	35	450	8,5	3485	59,0	0,93	0,60	5,00	35	4x1.5	1,7
				230			8,9	3500	57,0	0,89	0,65	4,80			
L4C11M236	1,1	1,5	1,3	220	40	450	12,2	3480	61,0	0,88	0,66	4,30	35	4x1.5	1,7
				230			12,7	3485	58,0	0,84	0,72	4,10			
L4C15M236	1,5	2	1,25	220	50	450	13,1	3430	65,0	0,98	0,60	4,30	35	4x1.5	1,7
				230			12,8	3455	65,0	0,97	0,65	4,60			
L4C22M236	2,2	3	1,15	220	50	450	17,6	3410	68,0	0,96	0,44	3,30	35	4x1.5	1,7
				230			17,1	3420	67,0	0,96	0,48	3,60			
L4C40M236	4	5,5	1,15	220	75	450	30,7	3440	74,0	0,93	0,32	3,80	35	4x2	2,7
				230			29,7	3460	74,0	0,92	0,34	4,10			
L4C03M116	0,37	0,5	1,6	110	80	450	10,6	3460	55,0	0,93	0,60	4,00	35	4x1.5	1,7
				115			11,0	3480	52,0	0,89	0,65	3,87			
L4C05M116	0,55	0,75	1,5	110	100	450	14,0	3460	60,0	0,89	0,60	3,90	35	4x1.5	1,7
				115			14,8	3485	57,0	0,84	0,65	3,70			
L4C07M116	0,75	1	1,4	110	140	450	17,0	3485	59,0	0,93	0,60	5,00	35	4x1.5	1,7
				115			17,8	3500	57,0	0,89	0,65	4,80			

* Ts/Tn = ratio between starting torque and nominal torque.

l4cm-2p60-en_d_te

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L4C MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE	RATED POWER		SERVICE FACTOR	RATED VOLTAGE	OPERATING CHARACTERISTICS AT FULL (S.F.) POWER				DIRECT STARTING		MAX WATER TEMPERATURE	CABLE TYPE	
THREE-PHASE	kW	HP	S. F.	V	A	rpm	η %	cosφ	Ts/Tn*	Is/In	°C	Nc x sec mm²	L m
L4C03T236	0,37	0,5	1,6	220	3,5	3400	57,0	0,78	3,2	4,6	35	4x1.5	1,7
				230	3,8	3415	51,0	0,76	3,4	5,0			
L4C05T236	0,55	0,75	1,5	220	4,6	3440	58,0	0,82	3,6	5,1	35	4x1.5	1,7
				230	4,8	3450	56,0	0,77	4,0	5,4			
L4C07T236	0,75	1	1,4	220	5,3	3450	69,0	0,74	4,2	5,3	35	4x1.5	1,7
				230	5,6	3460	65,0	0,72	4,8	5,7			
L4C11T236	1,1	1,5	1,3	220	7,5	3450	68,0	0,75	4,1	6,0	35	4x1.5	1,7
				230	7,8	3465	65,0	0,72	4,5	6,6			
L4C15T236	1,5	2	1,25	220	9,4	3470	73,0	0,71	5,0	6,1	35	4x1.5	1,7
				230	9,8	3490	70,0	0,68	5,4	6,7			
L4C22T236	2,2	3	1,15	220	11,5	3450	76,0	0,77	4,8	6,6	35	4x1.5	1,7
				230	12	3470	72,0	0,75	5,2	7,1			
L4C30T236	3	4	1,15	220	16,5	3460	73,0	0,73	4,2	7,2	35	4x1,5	2,7
				230	17,3	3480	72,0	0,70	4,4	7,5			
L4C40T236	4	5,5	1,15	220	18,8	3470	82,0	0,80	4,0	6,8	35	4x2	2,7
				230	19,2	3490	78,0	0,78	4,4	7,4			
L4C55T236	5,5	7,5	1,15	220	25,4	3480	83,0	0,80	3,8	6,9	35	4x2	2,7
				230	26	3500	80,0	0,78	4,2	7,5			
L4C03T386	0,37	0,5	1,6	380	2,3	3415	51,0	0,76	3,2	5,2	35	4x1.5	1,7
L4C05T386	0,55	0,75	1,5	380	2,9	3450	56,0	0,77	3,6	5,8	35	4x1.5	1,7
L4C07T386	0,75	1	1,4	380	3,4	3460	65,0	0,72	4,2	5,8	35	4x1.5	1,7
L4C11T386	1,1	1,5	1,3	380	4,7	3465	65,0	0,72	4,1	6,6	35	4x1.5	1,7
L4C15T386	1,5	2	1,25	380	5,9	3490	70,0	0,68	5,0	6,8	35	4x1.5	1,7
L4C22T386	2,2	3	1,15	380	7,2	3470	72,0	0,75	4,8	7,1	35	4x1.5	1,7
L4C30T386	3	4	1,15	380	9,5	3460	73,0	0,73	4,2	7,2	35	4x1,5	1,7
L4C40T386	4	5,5	1,15	380	11,6	3490	78,0	0,78	4,0	7,5	35	4x1.5	2,7
L4C55T386	5,5	7,5	1,15	380	15,7	3500	80,0	0,78	3,8	7,5	35	4x1.5	2,7
L4C75T386	7,5	10	1,15	380	20	3480	81,0	0,80	3,9	7,1	35	4x2	3,5

* Ts/Tn = ratio between starting torque and nominal torque.

l4ct-2p60-en_d_te

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6" Submersible motors

Submersible canned motors.
The choice of component materials ensures optimum operating performances, superior quality, reliability and ease of installation.

L6C Series 60 Hz

SPECIFICATIONS

- **Stainless steel** outer sleeve.
- Shaft extension and coupling dimensions to **NEMA** standards.
- Class **F insulation**.
- Protection class: **IP68**.
- Compensating bellows for internal liquid expansion.
- Axial load supported by Kingsbury type thrust bearing.
- **Mechanical seal** protected by sand guard.
- Maximum **immersion depth**: 250 m.
- Maximum **number of starts per hour** at regular intervals: 25 for direct start.
- Maximum supply **voltage variations** allowed: ±10%.
- Maximum water **temperature**: 35°C.
  Max. temperature applies to motors working in an installation capable of delivering a flow of water around the motor jacket of at least 0,2 m/s.
- **Axial thrust**:
  16000 N from 4 to 22 kW;
  27000 N from 30 to 37 kW.
- **Extractable supply cable** fitted with watertight connector.
- **Versions**:
  - Three-phase:
    4 to 22 kW 230 V, 60 Hz.
    4 to 37 kW 380 V, 60 Hz.
    4 to 37 kW 460 V, 60 Hz.
- Motors with double cable outlet for star/delta start can be supplied upon request.
- Can also operate in horizontal position, provided that the associated pump can apply an axial thrust of at least 250 N on the entire operating field.
- Screws included.

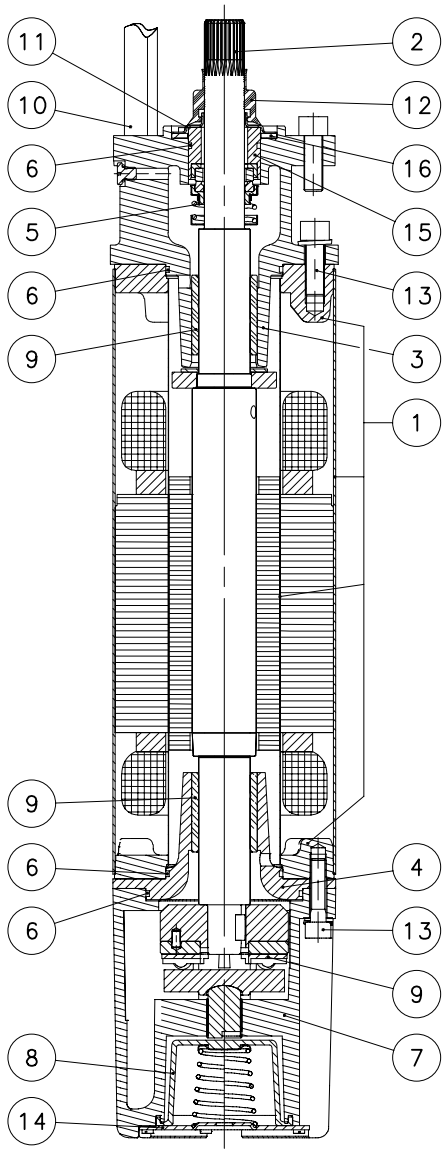
OPTIONAL FEATURES

- Silicon Carbide mechanical seal.
- Special voltages.
- Inverter applications.
- Temperature sensor **PT 100 / PTC**.

❑ **High starting torque**

❑ **Power supply cable with extractable connector**

L6C MOTOR SERIES
MOTOR CROSS SECTION AND TABLE OF MATERIALS



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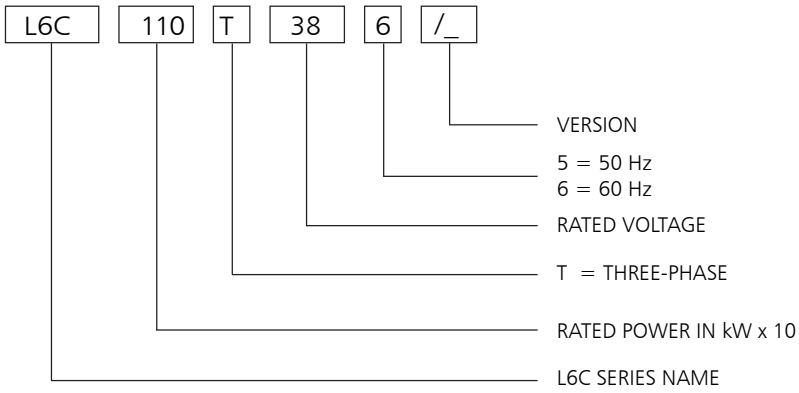
REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Inner and outer sleeve	Stainless steel	EN 10088-1-X2CrNi18-9 (1.4307)	AISI304L
	Flange	Carbon steel	EN 10025 - S355JR (Fe 510-B)	ASTM A105
2	Shaft extension	Stainless steel (Duplex)	EN 10095 X3CrNiMoN27-5-2 (1.4460)	AISI329
3	Upper bracket	Cast iron	EN-GJL-200	Class 25 B
4	Intermediate bracket	Cast iron	EN-GJL-200	Class 25 B
5	Mechanical seal	Carbon graphite / Aluminium oxide		
6	Elastomers	NBR		
7	Lower bracket	Cast iron	EN-GJL-200	Class 25 B
8	Compensating bellows	NBR		
9	Bearings	Carbon-graphite		
10	Cable	EPDM		
11	Fixed sand guard	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI304
12	Removable sand guard	NBR		
13	Bolts and screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI304
14	Lower cover	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI304
15	Mechanical seal spacer	A105 nichel plated		
16	Sand guard gasket	CR neoprene		
	Cooling liquid	Demineralized water + antifreeze		

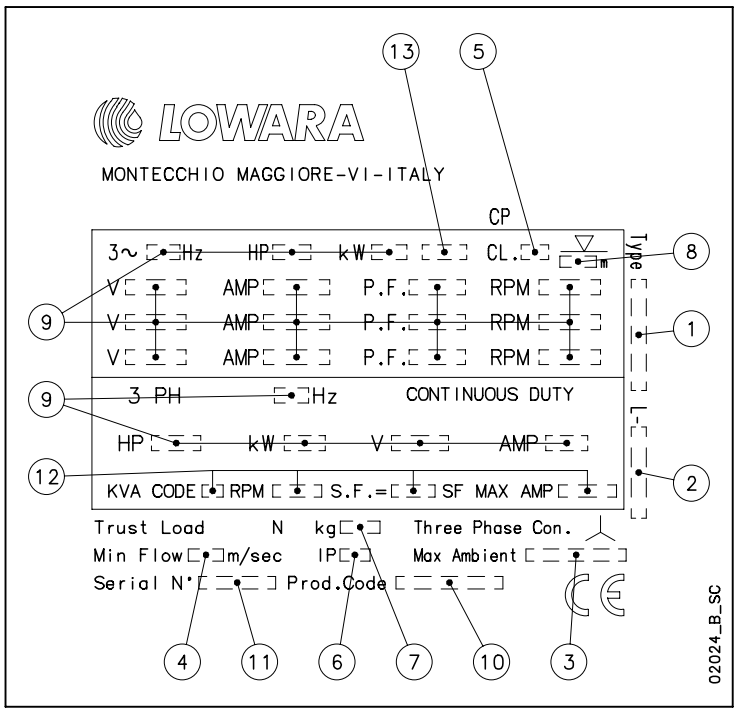
L6C MOTOR SERIES
IDENTIFICATION CODE



EXAMPLE : L6C110T386

L6C MOTOR :
RATED POWER 11 kW; THREE-PHASE;
RATED VOLTAGE 380 V; 60 Hz.

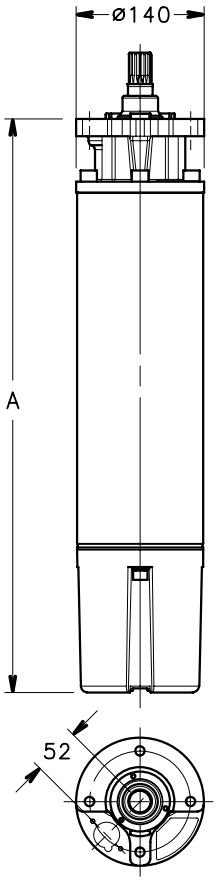
RATING PLATE

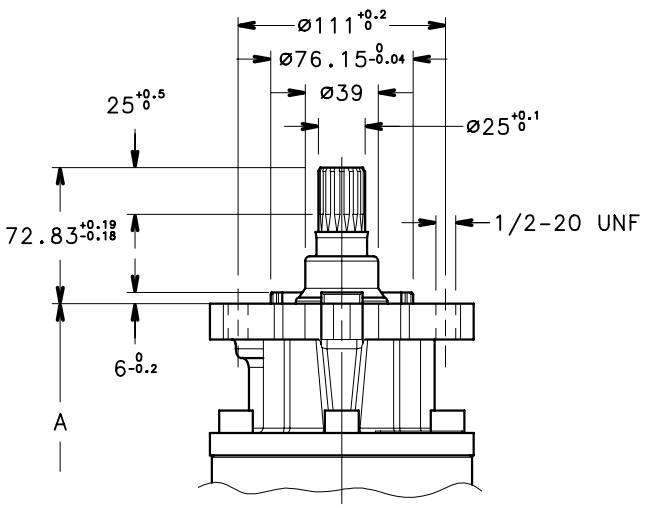


LEGEND

1 - Motor type
2 - Code
3 - Maximum water temperature
4 - Minimum water velocity
5 - Insulation class
6 - Protection class
7 - Weight
8 - Maximum immersion depht
9 - Operating characteristics
10 - Production date
11 - Serial number
12 - Characteristics at service factor
13 - Service type

L6C MOTOR SERIES
DIMENSIONS AND WEIGHTS AT 60 Hz





MOTOR TYPE	RATED POWER kW	RATED POWER HP	DIMENSIONS mm A	WEIGHT kg
L6C40T236-386-405	4	5,5	600	39,4
L6C55T236-386-405	5,5	7,5	631	43,2
L6C75T236-386-405	7,5	10	660	45,2
L6C93T236-386-405	9,3	12,5	685	48,8
L6C110T236-386-405	11	15	730	52,8
L6C150T236-386-405	15	20	785	59
L6C185T236-386-405	18,5	25	860	66,4
L6C220T236-386-405	22	30	920	72,4
L6C300T386-405	30	40	1050	85
L6C370T386-405	37	50	1180	98

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02027_B_DD

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L6C MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE	RATED POWER		SERVICE FACTOR	RATED VOLTAGE	OPERATING CHARACTERISTICS AT FULL (S.F.) POWER				DIRECT STARTING		MAX WATER TEMPERATURE	CABLE TYPE	
THREE-PHASE	kW	HP	S. F.	V	A	rpm	η %	cosφ	Ts/Tn*	Is/In	°C	Nc x sec mm²	L m
L6C40T236	4	5,5	1,15	230	19,0	3470	79,0	0,80	1,7	5,45	35	4x4	4
L6C40T386				380	11,5	3470	79,0	0,80	1,7	5,50		4x4	
L6C40T405				460	9,5	3470	79,0	0,80	1,7	5,54		4x4	
L6C55T236	5,5	7,5	1,15	230	26,6	3450	77,0	0,80	1,8	5,00	35	4x4	4
L6C55T386				380	16,1	3450	77,0	0,80	1,8	5,00		4x4	
L6C55T405				460	13,1	3450	77,0	0,80	1,8	5,00		4x4	
L6C75T236	7,5	10	1,15	230	33,0	3440	80,0	0,81	2,0	5,45	35	4x4	4
L6C75T386				380	20,0	3440	80,0	0,81	2,0	5,50		4x4	
L6C75T405				460	16,5	3440	80,0	0,81	2,0	5,50		4x4	
L6C93T236	9,3	12,5	1,15	230	41,2	3450	82,0	0,80	2,1	4,80	35	4x6	4
L6C93T386				380	25,0	3450	82,0	0,80	2,1	4,80		4x4	
L6C93T405				460	20,6	3450	82,0	0,80	2,1	4,80		4x4	
L6C110T236	11	15	1,15	230	46,6	3465	85,0	0,82	2,2	5,20	35	4x6	4
L6C110T386				380	28,2	3465	85,0	0,82	2,2	5,20		4x4	
L6C110T405				460	23,3	3465	85,0	0,82	2,2	5,20		4x4	
L6C150T236	15	20	1,15	230	61,6	3440	85,0	0,83	2,4	5,45	35	4x6	4
L6C150T386				380	37,3	3440	85,0	0,83	2,4	5,45		4x4	
L6C150T405				460	30,8	3440	85,0	0,83	2,4	5,45		4x4	
L6C185T236	18,5	25	1,15	230	80,0	3440	86,0	0,80	2,5	5,70	35	4x8	4
L6C185T386				380	48,4	3440	86,0	0,80	2,5	5,70		4x6	
L6C185T405				460	40	3440	86,0	0,80	2,5	5,70		4x6	
L6C220T236	22	30	1,15	230	99,6	3440	86,0	0,77	2,6	5,80	35	4x8	4
L6C220T386				380	60,2	3440	86,0	0,77	2,6	5,80		4x6	
L6C220T405				460	49,8	3440	86,0	0,77	2,6	5,80		4x6	
L6C300T386	30	40	1,15	380	75,0	3440	85,0	0,82	2,6	6,20	35	4x8	4
L6C300T405				460	62,0	3440	85,0	0,82	2,6	6,20		4x6	
L6C370T386	37	50	1,15	380	90,0	3440	84,0	0,88	2,6	6,20	35	4x8	4
L6C370T405				460	77,0	3440	84,0	0,88	2,6	6,20		4x8	

* Ts/Tn = ratio between starting torque and nominal torque.

l6c-2p60-en_e_te

6” Submersible motors

L6W Series 60 Hz

❑ **Rewindable stator**

❑ **Thrust bearing Kingsbury type**

❑ **Mechanical seal**

Water filled submersible motors.
The robust design together with excellent choise of materials ensures optimal performance, ease of installation and reliability in all applications. For extremely demanding operation as high water temperature or aggressive environments special versions are available.

SPECIFICATIONS

- **Stainless steel** outer sleeve.
- Shaft extension and coupling dimensions to **NEMA** standards.
- **Rewindable stator**.
- Class **Y insulation**.
- Protection class: **IP68**.
- Compensating bellows for internal liquid expansion.
- Axial load supported by Kingsbury type thrust bearing.
- **Mechanical seal** protected by sand guard.
- Maximum **immersion depth**: 350 m.
- Maximum **number of starts per hour** at regular intervals: 15.
- Maximum supply **voltage variations** allowed : ±10%.
- Maximum water **temperature**: 30°C.
  Max. temperature applies to motors working in a installation capable of delivering a flow of water around the motor jacket as following:
  Standard versions 0,2 m/s (4÷9,3 kW), 0,3 m/s (11÷30 kW) and 0,5 m/s (37 kW).
  HT versions 0,2 m/s (5,5÷7,5 kW), 0,3 m/s (9,3÷26 kW) and 0,5 m/s (30 kW).
- **Axial thrust**:
  16000 N from 4 to 22 kW;
  30000 N from 26 to 37 kW.
- **Power supply** cable suitable for drinkable water.
- **Versions**:
  - Three-phase:
    4 to 18,5 kW, DOL 230 V, 60 Hz.
    4 to 30 kW, Y/D 230 V, 60 Hz.
    4 to 37 kW 380 V, 60 Hz.
    4 to 37 kW 460 V, 60 Hz.
- **Horizontal operation**:
  valid for all versions provided that the direction of the axial thrust generated by the impellers is always from the pump to the motor.
- Flat power supply cable.
- Screws included.

SPECIAL VERSIONS

- Motors with double cable outlet for star/delta start.
- **L6WN series**: complete range available realized of AISI 316 stainless steel.
- **L6WR series**: complete range available realized of Duplex stainless steel.
- **HT series**: complete range available for all the L6W/N/R construction, realized for applications in high temperature environments (**up to 60°C**) or under inverter.

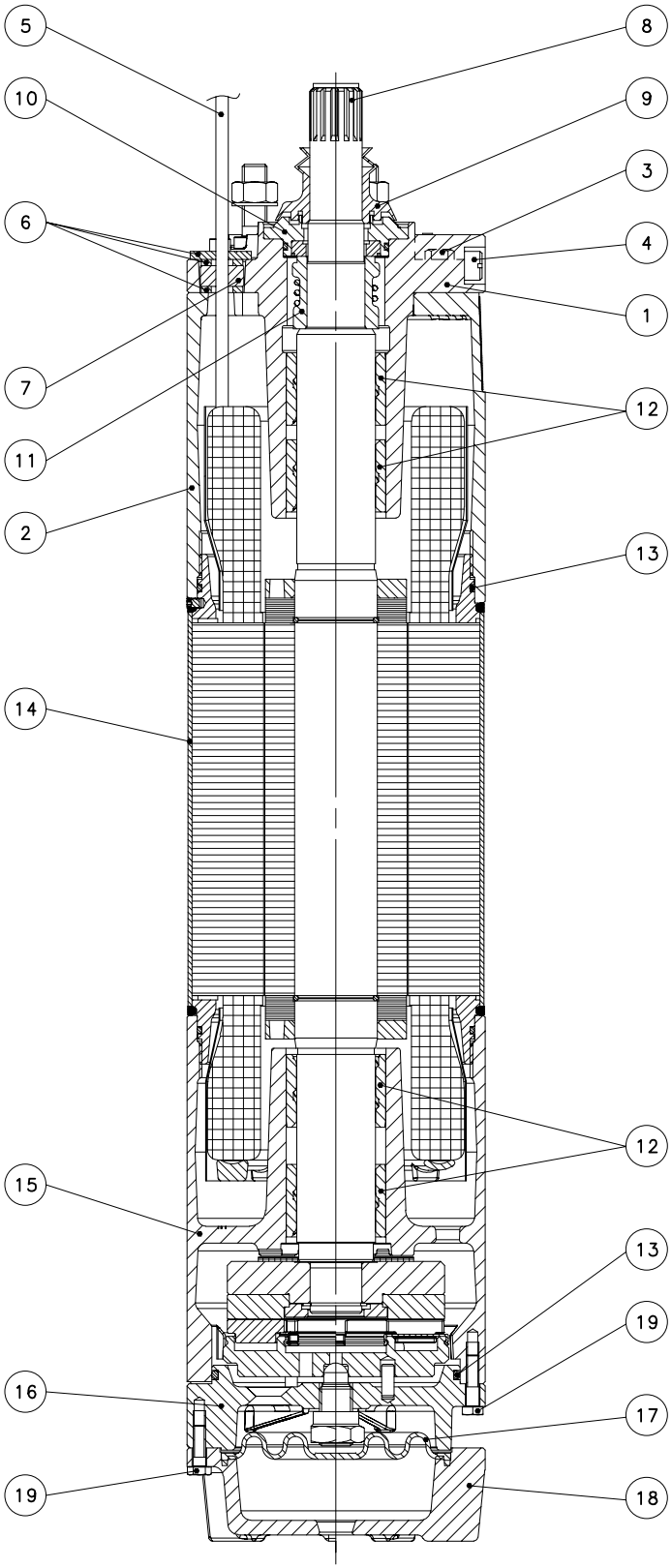
OPTIONAL FEATURES

- Silicon Carbide mechanical seal.
- Special voltages.

ACCESSORIES

- Temperature sensor **PT 100 / PTC**.

L6W - L6WN - L6WR MOTOR SERIES
MOTOR CROSS SECTION



L6W TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Cast iron	EN-GJL-200	Class 25 B
2	Spacer	Cast iron	EN-GJL-200	Class 25 B
3	Filling plug + OR	Stainless steel+NBR	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
4	Vent valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
5	Cable	EPR		
6	Cable gland plate	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI304
7	Cable gland	EPDM		
8	Shaft end	Stainless steel	EN 10088-1-X20Cr13 (1.4021)	AISI420
9	Removable sand guard	EPDM		
10	Mechanical seal cover	Stainless steel	EN 10213-4-GX5CrNi19-10 (1.4308)	ASTM CF-8 (AISI 304 cast)
11	Mechanical seal	Carbon graphite / Aluminium oxide		
12	Bush bearings	Carbon graphite		
13	Elastomers	NBR		
14	Motor sleeve	Stainless steel	EN 10088-1-X2CrNi19-11 (1.4306)	AISI304L
15	Lower bracket	Cast iron	EN-GJL-200	Class 25 B
16	Thrust bearing bracket	Cast iron	EN-GJL-200	Class 25 B
17	Diaphragm	EPDM		
18	Lower cover	Cast iron	EN-GJL-200	Class 25 B
19	Bolts and screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI304
	Cooling liquid	Water + antifreeze		

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L6WN TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
2	Spacer	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
3	Filling plug + OR	Stainless steel+NBR	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
4	Vent valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
5	Cable	EPR		
6	Cable gland plate	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
7	Cable seal	EPDM		
8	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Removable sand guard	EPDM		
10	Mechanical seal cover	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
11	Mechanical seal	Carbon graphite / Aluminium oxide		
12	Bush bearings	Carbon graphite		
13	Elastomers	NBR		
14	Motor sleeve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
15	Lower bracket	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
16	Thrust bearing bracket	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
17	Diaphragm	EPDM		
18	Lower cover	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
19	Bolts and screws	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
	Cooling liquid	Water + antifreeze		

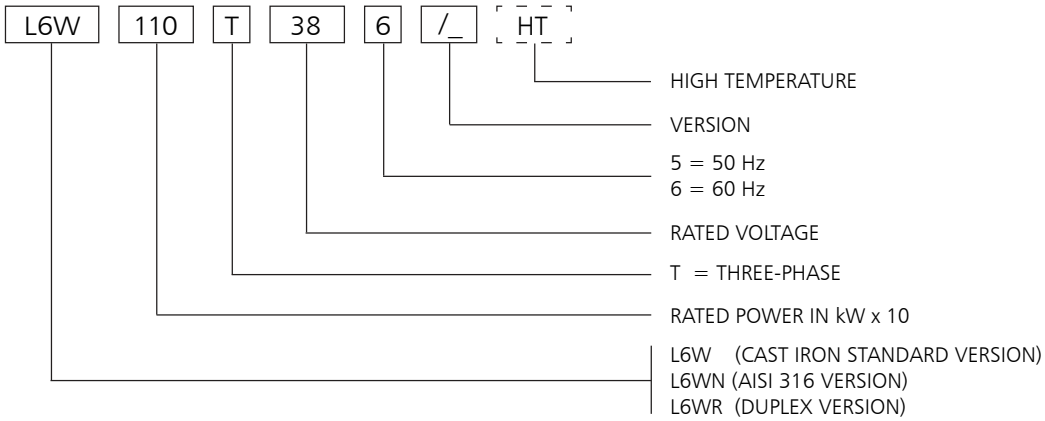
L6wn-2p50-en_b_tm

L6WR TABLE OF MATERIALS

REF. N°	PART	MATERIALE	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
2	Spacer	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
3	Filling plug + OR	Duplex s. s.+NBR	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
4	Vent valve	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
5	Cable	EPR		
6	Cable gland plate	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
7	Cable gland	EPDM		
8	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Removable sand guard	EPDM		
10	Mechanical seal cover	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
11	Mechanical seal	Carbon graphite / Aluminium oxide		
12	Bush bearings	Carbon graphite		
13	Elastomers	NBR		
14	Motor sleeve	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
15	Lower bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
16	Thrust bearing bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
17	Diaphragm	EPDM		
18	Lower cover	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
19	Bolts and screws	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
	Cooling liquid	Water + antifreeze		

L6wr-2p50-en_b_tm

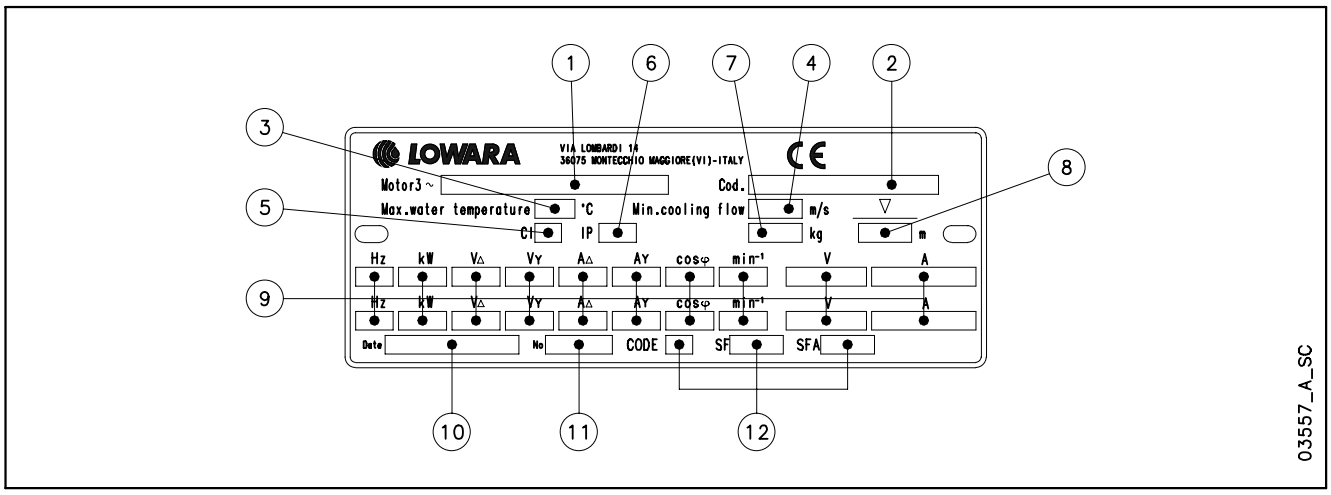
L6W MOTOR SERIES
IDENTIFICATION CODE



EXAMPLE : L6W110T386/A HT

L6W MOTOR :
RATED POWER 11 kW; THREE-PHASE;
RATED VOLTAGE 380 V; 60 Hz; /A VERSION; HIGH TEMPERATURE

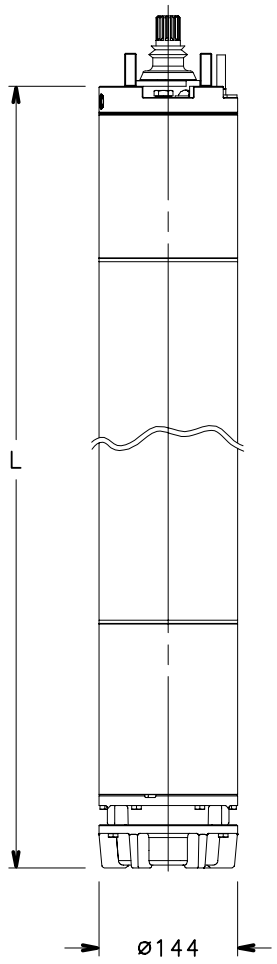
RATING PLATE

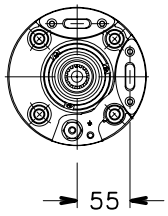


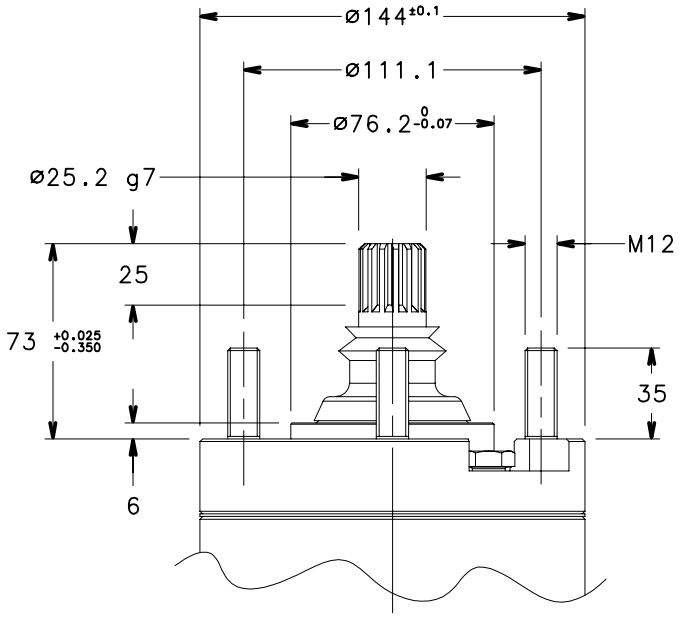
LEGEND

1 - Motor type
2 - Code
3 - Maximum water temperature
4 - Minimum water velocity
5 - Insulation class
6 - Protection class
7 - Weight
8 - Maximum immersion depht
9 - Operating characteristics
10 - Production date
11 - Serial number
12 - Characteristics at service factor

L6W MOTOR SERIES
DIMENSIONS AND WEIGHTS AT 60 Hz







MOTOR TYPE	RATED POWER		DIMENSIONS (mm)	WEIGHT
	kW	HP	L	kg
L6W40T236-386-405	4	5,5	583	38
L6W55T236-386-405	5,5	7,5	613	42
L6W75T236-386-405	7,5	10	653	46
L6W93T236-386-405	9,3	12,5	683	50
L6W110T236-386-405	11	15	723	54
L6W130T236-386-405	13	17,5	763	58
L6W150T236-386-405	15	20	833	66
L6W185T236-386-405	18,5	25	903	74
L6W220T236-386-405	22	30	943	77
L6W260T236-386-405	26	35	1071	86
L6W300T236-386-405	30	40	1151	94
L6W370T236-386-405	37	50	1301	108

l6w-2p60_a_td

MOTOR TYPE	RATED POWER		DIMENSIONS (mm)	WEIGHT
	kW	HP	L	kg
L6W40T236-386-405 HT	4	5,5	613	42
L6W55T236-386-405 HT	5,5	7,5	653	46
L6W75T236-386-405 HT	7,5	10	683	50
L6W93T236-386-405 HT	9,3	12,5	723	54
L6W110T236-386-405 HT	11	15	763	58
L6W130T236-386-405 HT	13	17,5	833	66
L6W150T236-386-405 HT	15	20	903	74
L6W185T236-386-405 HT	18,5	25	943	77
L6W220T236-386-405 HT	22	30	1071	86
L6W260T236-386-405 HT	26	35	1151	94
L6W300T236-386-405 HT	30	40	1301	108

l6w-ht-2p60_a_td

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L6W MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE THREE-PHASE	RATED POWER		RATED VOLTAGE	OPERATING CHARACTERISTICS AT RATED POWER				DIRECT ON-LINE STARTING			SERVICE FACTOR	SERVICE FACTOR AMPS	MAX WATER TEMP.	CABLE TYPE Sec. (mm^2)		
	kW	HP	V	A	rpm	η %	cosφ	Is/In	Ts/Tn	Tmax/Tn	SF	SFA	°C	DOL	Y/D	L (m)
L6W40T236	4	5,5	230	17,3	3500	72,8	0,80	4,51	1,28	2,01	1,15	19,0	30	4	4	4
L6W40T386			380	9,94	3490	73,0	0,84	4,75	1,29	2,02		11,2				
L6W40T405			460	8,09	3485	73,0	0,85	4,82	1,29	2,02		9,16				
L6W55T236	5,5	7,5	230	24,3	3505	75,4	0,75	5,01	1,59	2,54	1,15	26,4	30	4	4	4
L6W55T386			380	13,7	3495	76,3	0,80	5,38	1,60	2,55		15,1				
L6W55T405			460	10,9	3490	76,8	0,82	5,59	1,60	2,55		12,2				
L6W75T236	7,5	10	230	30,6	3500	78,2	0,79	5,33	1,69	2,49	1,15	33,6	30	4	4	4
L6W75T386			380	17,4	3490	78,8	0,83	5,67	1,70	2,50		19,4				
L6W75T405			460	14,1	3485	78,9	0,84	5,78	1,70	2,50		15,8				
L6W93T236	9,3	12,5	230	37,6	3495	79,4	0,78	5,52	1,84	2,69	1,15	41,3	30	4	4	4
L6W93T386			380	21,3	3485	79,9	0,83	5,90	1,85	2,70		23,8				
L6W93T405			460	17,3	3480	80,0	0,84	6,00	1,85	2,70		19,5				
L6W110T236	11	15	230	43,5	3490	80,3	0,79	5,38	1,52	2,56	1,15	47,9	30	6	4	4
L6W110T386			380	24,7	3480	80,7	0,84	5,73	1,53	2,57		27,8		4		
L6W110T405			460	20,2	3475	80,8	0,85	5,79	1,53	2,57		22,8				
L6W130T236	13	17,5	230	52,5	3495	80,5	0,77	5,33	1,66	2,55	1,15	57,4	30	6	4	4
L6W130T386			380	29,5	3485	81,2	0,82	5,74	1,67	2,55		32,9		4		
L6W130T405			460	23,3	3475	81,4	0,86	6,00	1,67	2,56		26,4				
L6W150T236	15	20	230	56,4	3485	83,1	0,80	6,21	1,93	3,02	1,15	62,5	30	10	4	4
L6W150T386			380	32,5	3470	83,3	0,84	6,52	1,94	3,03		36,6		4		
L6W150T405			460	27,2	3475	83,3	0,83	6,44	1,94	3,03		30,5				
L6W185T236	18,5	25	230	71,1	3495	83,4	0,78	6,24	2,39	3,10	1,15	78,2	30	10	6	4
L6W185T386			380	40,4	3485	83,8	0,83	6,65	2,40	3,11		45,1		4	4	
L6W185T405			460	32,6	3480	83,9	0,85	6,81	2,40	3,11		36,7		6		
L6W220T236	22	30	230	82,5	3510	84,8	0,79	5,70	0,98	2,95	1,15	91,9	30	-	6	4
L6W220T386			380	47,5	3500	84,7	0,83	5,99	0,98	2,96		53,8		6	4	
L6W220T405			460	40,0	3500	84,7	0,82	5,88	0,98	2,96		45,0				
L6W260T236	26	35	230	107	3510	84,4	0,72	5,45	1,17	2,81	1,15	117	30	-	10	4
L6W260T386			380	59,8	3500	85,0	0,78	5,90	1,18	2,82		66,5		6	4	
L6W260T405			460	47,8	3495	85,0	0,80	6,10	1,18	2,82		53,7				
L6W300T236	30	40	230	112	3510	84,4	0,79	6,04	2,49	2,75	1,15	126	30	-	10	4
L6W300T386			380	64,9	3500	84,4	0,83	6,31	2,49	2,75		72,6		10	4	
L6W300T405			460	53,9	3505	84,5	0,83	6,28	2,49	2,75		61,0				
L6W370T386	37	50	380	86,2	3495	83,4	0,78	5,40	1,32	2,63	1,15	95,9	30	10	6	4
L6W370T405			460	68,6	3490	83,6	0,81	5,61	1,32	2,63		77,1			4	

Ts/Tn = ratio between starting torque and nominal torque.

Tmax/Tn = ratio between maximum torque and nominal torque.

l6w-2p60_d_te

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L6W HT MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE THREE-PHASE	RATED POWER		RATED VOLTAGE	OPERATING CHARACTERISTICS AT RATED POWER				DIRECT ON-LINE STARTING			SERVICE FACTOR	SERVICE FACTOR AMPS	MAX WATER TEMP.	CABLE TYPE Sec. (mm^2)		
	kW	HP	V	A	rpm	η %	cosφ	Is/In	Ts/Tn	Tmax/Tn	SF	SFA	°C	DOL	Y/D	L (m)
L6W40T236 HT	4	5,5	230	21,3	3530	72,3	0,65	5,74	2,21	3,52	1,15	22,4	45	4	4	4
L6W40T386 HT			380	11,5	3525	74,0	0,71	6,43	2,21	3,52		12,3				
L6W40T405 HT			460	9,04	3520	74,9	0,74	6,76	2,21	3,53		9,74				
L6W55T236 HT	5,5	7,5	230	26,2	3525	76,1	0,69	6,23	2,34	3,45	1,15	27,9	45	4	4	4
L6W55T386 HT			380	14,4	3520	77,6	0,75	6,86	2,34	3,45		15,5				
L6W55T405 HT			460	11,5	3520	78,0	0,77	7,10	2,34	3,45		12,5				
L6W75T236 HT	7,5	10	230	33,5	3515	78,2	0,72	6,21	2,30	3,36	1,15	36,0	45	4	4	4
L6W75T386 HT			380	18,5	3510	79,4	0,78	6,81	2,31	3,37		20,2				
L6W75T405 HT			460	14,9	3505	79,7	0,79	6,98	2,31	3,37		16,4				
L6W93T236 HT	9,3	12,5	230	39,5	3510	79,8	0,74	5,87	1,81	3,05	1,15	42,7	45	6	4	4
L6W93T386 HT			380	22,0	3500	80,8	0,80	6,38	1,82	3,06		24,2		4		
L6W93T405 HT			460	17,8	3495	81,0	0,81	6,51	1,82	3,06		19,7				
L6W110T236 HT	11	15	230	48,2	3515	79,9	0,72	5,81	1,98	3,04	1,15	51,7	45	6	4	4
L6W110T386 HT			380	26,4	3505	71,1	0,78	6,42	1,99	3,05		28,9		4		
L6W110T405 HT			460	20,5	3500	81,7	0,82	6,83	1,99	3,05		22,8				
L6W130T236 HT	13	17,5	230	56,5	3510	81,9	0,71	6,21	2,24	3,50	1,15	60,7	45	10	4	4
L6W130T386 HT			380	31,3	3500	82,9	0,76	6,78	2,25	3,51		34,1		4		
L6W130T405 HT			460	24,6	3495	83,5	0,80	7,13	2,25	3,52		27,1				
L6W150T236 HT	15	20	230	63,3	3515	82,7	0,72	7,02	2,98	3,86	1,15	68,2	45	10	4	4
L6W150T386 HT			380	35,0	3510	83,5	0,78	7,68	2,99	3,86		38,3		4		
L6W150T405 HT			460	28,0	3505	83,9	0,80	7,93	2,99	3,87		30,9		6		
L6W185T236 HT	18,5	25	230	74,1	3520	84,6	0,74	6,77	1,94	3,25	1,15	81,2	45	-	6	4
L6W185T386 HT			380	41,6	3515	85,2	0,79	7,30	1,94	3,25		46,3		6	4	
L6W185T405 HT			460	35,0	3520	85,0	0,78	7,17	1,94	3,25		38,8		6		
L6W220T236 HT	22	30	230	97,7	3525	84,0	0,67	5,97	1,40	3,35	1,15	105	45	10	10	4
L6W220T386 HT			380	53,5	3520	85,0	0,73	6,59	1,40	3,36		58,6			4	
L6W220T405 HT			460	42,3	3515	85,2	0,77	6,89	1,40	3,36		46,8		6		
L6W260T236 HT	26	35	230	102	3525	84,4	0,76	6,64	2,89	3,19	1,15	112	45	-	10	4
L6W260T386 HT			380	57,7	3515	84,7	0,81	7,10	2,89	3,19		64,8		10	4	
L6W260T405 HT			460	48,0	3520	84,7	0,80	7,05	2,89	3,19		53,7				
L6W300T386 HT	30	40	380	75,2	3520	83,7	0,73	6,19	1,64	3,28	1,15	82,1	45	-	6	4
L6W300T405 HT			460	58,8	3515	84,2	0,76	6,54	1,64	3,28		64,9		10	4	

Ts/Tn = ratio between starting torque and nominal torque.

Tmax/Tn = ratio between maximum torque and nominal torque.

l6w-ht-2p60_b_te

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8" Submersible motors

L8W Series 60 Hz

- ❑ **Rewindable stator**
- ❑ **Thrust bearing Kingsbury type**
- ❑ **Mechanical seal**

Water filled submersible motors.
The robust design together with excellent choise of materials ensures optimal performance, ease of installation and reliability in all applications. For extremely demanding operation as high water temperature or aggressive environments special versions are available.

SPECIFICATIONS

- **Stainless steel** outer sleeve.
- Shaft extension and coupling dimensions to **NEMA** standards.
- **Rewindable stator**.
- Class **Y insulation**.
- Protection class: **IP68**.
- Compensating bellows for internal liquid expansion.
- Axial load supported by Kingsbury type thrust bearing.
- **Mechanical seal** protected by sand guard.
- Maximum **immersion depth**: 350 m.
- Maximum **number of starts per hour** at regular intervals: 10.
- Maximum supply **voltage variations** allowed : ±10%.
- Maximum water **temperature**: 30°C.
  Max. temperature applies to motors working in a installation capable of delivering a flow of water around the motor jacket of at least 0,5 m/s.
- **Axial thrust**:
  50000 N from 30 to 93 kW.
- **Power supply** cable suitable for drinkable water.
- **Versions**:
  - Three-phase:
    30 to 93 kW 380 V, 60 Hz.
    30 to 93 kW 460 V, 60 Hz.
- **Horizontal operation**:
  valid for all versions provided that the direction of the axial thrust generated by the impellers is always from the pump to the motor.

SPECIAL VERSIONS

- Motors with double cable outlet for star/delta start.
- **L8WN series**: complete range available realized of AISI 316 stainless steel.
- **L8WR series**: complete range available realized of Duplex stainless steel.
- **HT series**: complete range available for all the L8W/N/R construction, realized for applications in high temperature environments (**up to 60°C**) or under inverter.

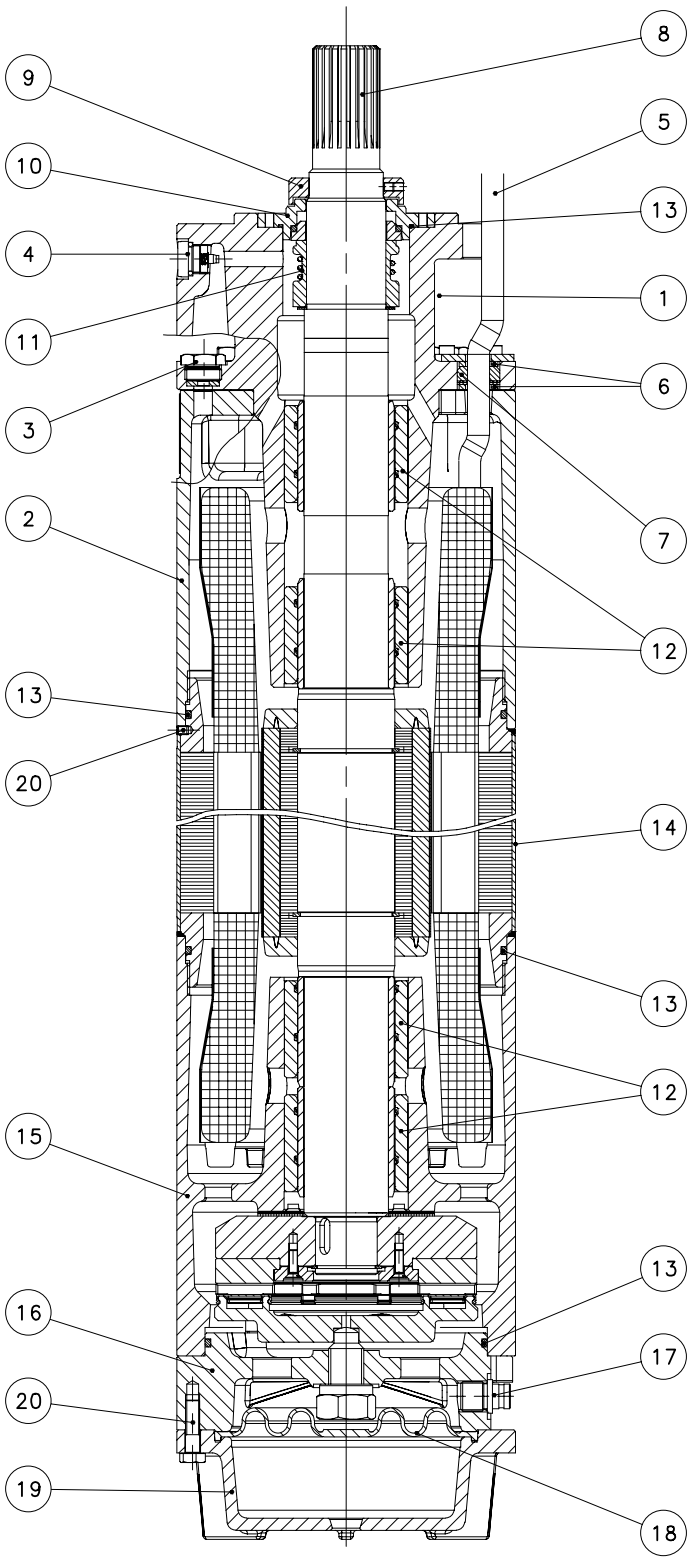
OPTIONAL FEATURES

- Silicon Carbide mechanical seal.
- Special voltages.

ACCESSORIES

- Temperature sensor **PT 100 / PTC**.

L8W - L8WN - L8WR MOTOR SERIES
MOTOR CROSS SECTION



L8W TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Cast iron	EN-GJL-200	Class 25 B
2	Spacer	Cast iron	EN-GJL-200	Class 25 B
3	Filling plug + OR	Stainless steel+NBR	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
4	Vent valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
5	Cable	EPR		
6	Cable gland plate	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI304
7	Cable gland	EPDM		
8	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Removable sand guard	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Mechanical seal cover	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
11	Mechanical seal	Carbon graphite / Aluminium oxide		
12	Bush bearings	Carbon graphite		
13	Elastomers	NBR		
14	Motor sleeve	Stainless steel	EN 10088-1-X2CrNi19-11 (1.4306)	AISI304L
15	Lower bracket	Cast iron	EN-GJL-200	Class 25 B
16	Thrust bearing bracket	Cast iron	EN-GJL-200	Class 25 B
17	Filling valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
18	Diaphragm	EPDM		
19	Lower cover	Cast iron	EN-GJL-200	Class 25 B
20	Bolts and screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI304
	Cooling liquid	Water + antifreeze		

L8w-2p50-en_a_tm

L8WN TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
2	Spacer	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
3	Filling plug + OR	Stainless steel+NBR	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
4	Vent valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
5	Cable	EPR		
6	Cable gland plate	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
7	Cable gland	EPDM		
8	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Removable sand guard	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Mechanical seal cover	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
11	Mechanical seal	Carbon graphite / Aluminium oxide		
12	Bush bearings	Carbon graphite		
13	Elastomers	NBR		
14	Motor sleeve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
15	Lower bracket	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
16	Thrust bearing bracket	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
17	Filling valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
18	Diaphragm	EPDM		
19	Lower cover	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
20	Bolts and screws	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
	Cooling liquid	Water + antifreeze		

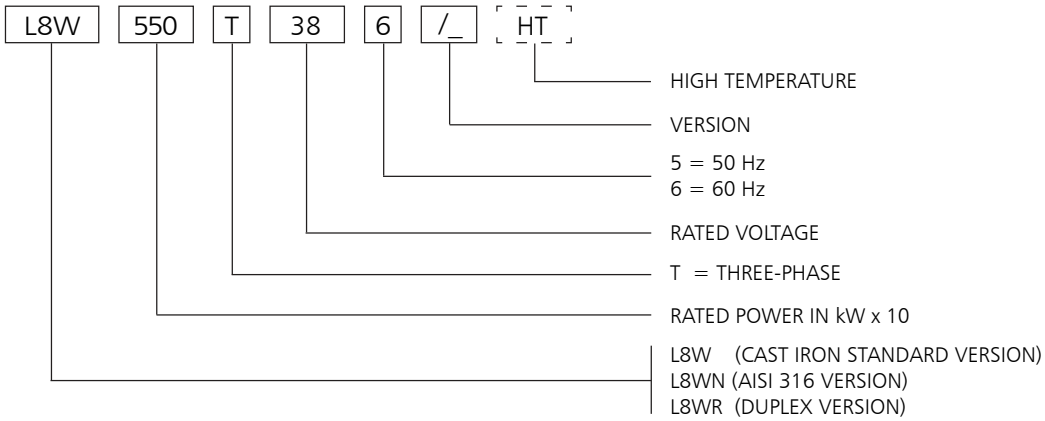
L8wn-2p50-en_a_tm

L8WR TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
2	Spacer	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
3	Filling plug + OR	Duplex s. s.+NBR	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
4	Vent valve	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
5	Cable	EPR		
6	Cable gland plate	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
7	Cable gland	EPDM		
8	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Removable sand guard	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
10	Mechanical seal cover	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
11	Mechanical seal	Carbon graphite / Aluminium oxide		
12	Bush bearings	Carbon graphite		
13	Elastomers	NBR		
14	Motor sleeve	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
15	Lower bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
16	Thrust bearing bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
17	Filling valve	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
18	Diaphragm	EPDM		
19	Lower cover	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
20	Bolts and screws	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
	Cooling liquid	Water + antifreeze		

L8wr-2p50-en_a_tm

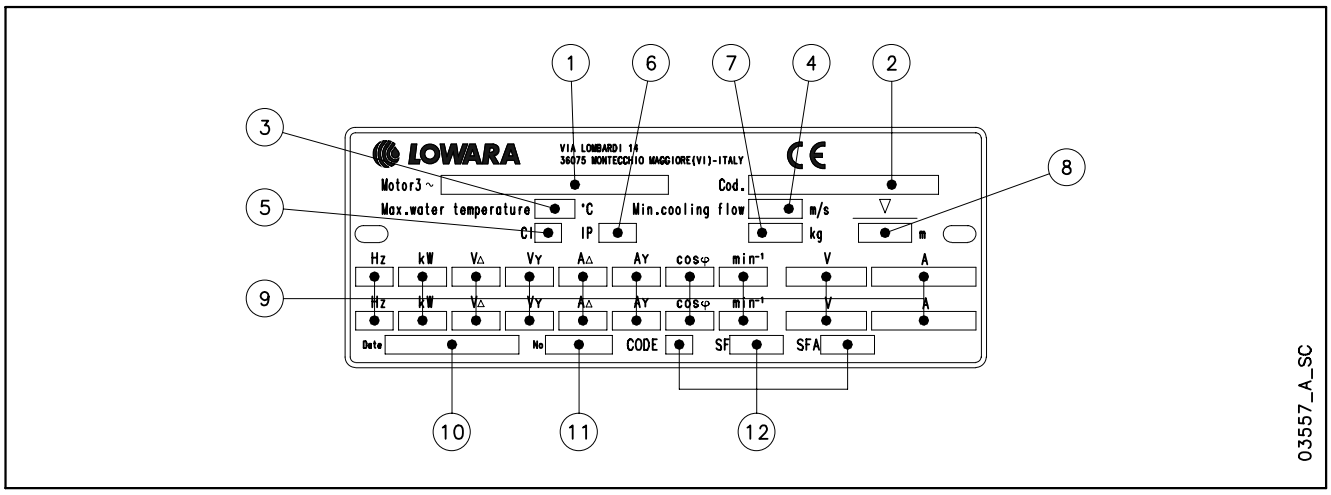
L8W MOTOR SERIES
IDENTIFICATION CODE



EXAMPLE : L8W550T386/A HT

L8W MOTOR :
RATED POWER 55 kW; THREE-PHASE;
RATED VOLTAGE 380 V; 60 Hz; /A VERSION; HIGH TEMPERATURE

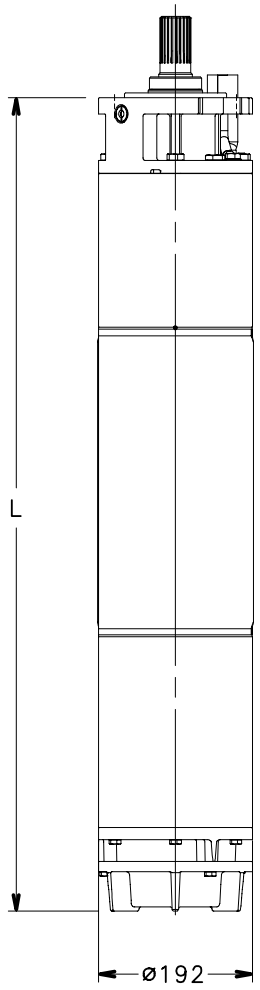
RATING PLATE

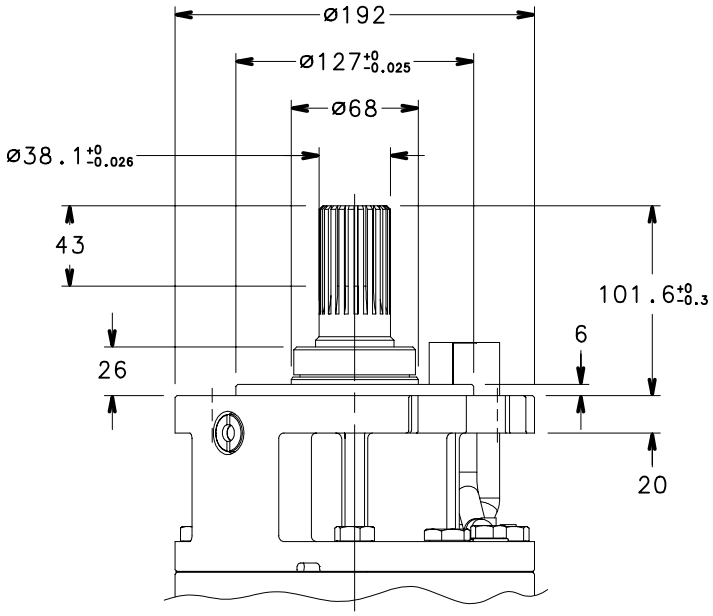


LEGEND

1 - Motor type
2 - Code
3 - Maximum water temperature
4 - Minimum water velocity
5 - Insulation class
6 - Protection class
7 - Weight
8 - Maximum immersion depht
9 - Operating characteristics
10 - Production date
11 - Serial number
12 - Characteristics at service factor

L8W MOTOR SERIES
DIMENSIONS AND WEIGHTS AT 60 Hz





MOTOR TYPE	RATED POWER		DIMENSIONS (mm)	WEIGHT
	kW	HP	L	kg
L8W300T386-405	30	40	1015	145
L8W370T386-405	37	50	1105	162
L8W450T386-405	45	60	1195	180
L8W520T386-405	52	70	1285	200
L8W550T386-405	55	75	1325	206
L8W600T386-405	60	80	1375	217
L8W670T386-405	67	90	1465	235
L8W750T386-405	75	100	1555	252
L8W830T386-405	83	110	1615	265
L8W930T386-405	93	125	1755	290

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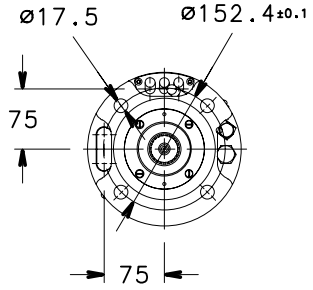

MOTOR TYPE	RATED POWER		DIMENSIONS (mm)	WEIGHT
	kW	HP	L	kg
L8W300T386-405 HT	30	40	1105	162
L8W370T386-405 HT	37	50	1195	180
L8W450T386-405 HT	45	60	1285	200
L8W520T386-405 HT	52	70	1325	206
L8W550T386-405 HT	55	75	1375	217
L8W600T386-405 HT	60	80	1465	235
L8W670T386-405 HT	67	90	1555	252
L8W750T386-405 HT	75	100	1615	265
L8W830T386-405 HT	83	110	1755	290

l8w-ht-2p60_a_td

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L8W MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE THREE-PHASE	RATED POWER		RATED VOLTAGE	OPERATING CHARACTERISTICS AT RATED POWER				DIRECT ON-LINE STARTING			SERVICE FACTOR	SERVICE FACTOR AMPS	MAX WATER TEMP.	CABLE TYPE Sec. (mm^2)		
	kW	HP	V	A	rpm	η %	cosφ	Is/In	Ts/Tn	Tmax/Tn	SF	SFA	°C	DOL	Y/D	L (m)
L8W300T386	30	40	380	67,8	3470	81,5	0,83	5,50	1,04	2,22	1,15	78,0	30	10	6	5,5
L8W300T405			460	56,0								64,4		10	4	
L8W370T386	37	50	380	83,5	3475	81,5	0,83	5,26	1,04	2,23	1,15	96,1	30	16	6	5,5
L8W370T405			460	69,0								79,4		10	6	
L8W450T386	45	60	380	99,3	3480	83	0,83	4,98	0,98	2,22	1,15	114	30	16	10	5,5
L8W450T405			460	82,0								94,3		16	6	
L8W520T386	52	70	380	116	3475	83	0,82	5,56	1,06	2,22	1,15	134	30	25	10	5,5
L8W520T405			460	96,0								110		16	10	
L8W550T386	55	75	380	121	3475	83,5	0,83	5,44	1,06	2,24	1,15	139	30	25	10	5,5
L8W550T405			460	100								115		16	10	
L8W600T386	60	80	380	130	3480	84	0,84	5,07	1,04	2,23	1,15	149	30	25	16	5,5
L8W600T405			460	107								123		16	10	
L8W670T386	67	90	380	146	3480	84	0,83	5,13	1,03	2,23	1,15	168	30	35	16	5,5
L8W670T405			460	121								139		25	10	
L8W750T386	75	100	380	162	3485	84	0,84	5,04	1,01	2,22	1,15	187	30	35	16	5,5
L8W750T405			460	134								154		25	16	
L8W830T386	83	110	380	179	3485	84	0,84	4,79	0,97	2,28	1,15	206	30	35	16	5,5
L8W830T405			460	148								170		35	16	
L8W930T386	93	125	380	201	3490	84	0,84	4,6	1,02	2,22	1,15	231	30	50	25	5,5
L8W930T405			460	166								191		35	16	

Ts/Tn = ratio between starting torque and nominal torque.

Tmax/Tn = ratio between maximum torque and nominal torque.

l8w-2p60_c_te

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L8W HT MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE THREE-PHASE	RATED POWER		RATED VOLTAGE	OPERATING CHARACTERISTICS AT RATED POWER				DIRECT ON-LINE STARTING			SERVICE FACTOR	SERVICE FACTOR AMPS	MAX WATER TEMP.	CABLE TYPE Sec. (mm^2)		
	kW	HP	V	A	rpm	η %	cosφ	Is/In	Ts/Tn	Tmax/Tn	SF	SFA	°C	DOL	Y/D	L (m)
L8W300T386 HT	30	40	380	70,5	3510	83,7	0,79	6,24	1,28	2,75	1,15	78,7	45	10	6	5,5
L8W300T405 HT			460	58,2								65,0		10	4	
L8W370T386 HT	37	50	380	81,1	3515	84,0	0,80	6,09	1,19	2,70	1,15	92,0	45	16	6	5,5
L8W370T405 HT			460	67,0								76,0		10	6	
L8W450T386 HT	45	60	380	99,9	3505	84,0	0,79	6,47	1,22	2,57	1,15	107	45	16	10	5,5
L8W450T405 HT			460	82,5								88,0		16	6	
L8W520T386 HT	52	70	380	114	3495	84,0	0,83	5,79	1,12	2,37	1,15	129	45	25	10	5,5
L8W520T405 HT			460	94,0								106		16	10	
L8W550T386 HT	55	75	380	120	3505	84,5	0,82	5,47	1,13	2,43	1,15	136	45	25	10	5,5
L8W550T405 HT			460	99,1								112		16	10	
L8W600T386 HT	60	80	380	133	3505	85,3	0,81	5,64	1,15	2,49	1,15	149	45	25	16	5,5
L8W600T405 HT			460	110								123		16	10	
L8W670T386 HT	67	90	380	146	3510	85,4	0,82	5,58	1,13	2,49	1,15	166	45	35	16	5,5
L8W670T405 HT			460	121								137		25	10	
L8W750T386 HT	75	100	380	161	3505	83,6	0,83	5,33	1,07	2,52	1,15	185	45	35	16	5,5
L8W750T405 HT			460	133								153		25	16	
L8W830T386 HT	83	110	380	177	3520	85,8	0,82	5,23	1,14	2,49	1,15	197	45	35	16	5,5
L8W830T405 HT			460	146								163		35	16	

Ts/Tn = ratio between starting torque and nominal torque.

Tmax/Tn = ratio between maximum torque and nominal torque.

l8w-ht-2p60_a_te

10” Submersible motors

Water filled submersible motors.
The robust design together with excellent choise of materials ensures optimal performance, ease of installation and reliability in all applications. For extremely demanding operation as high water temperature or aggressive environments special versions are available.

L10W Series 60 Hz

❑ **Rewindable stator**

❑ **Thrust bearing Kingsbury type**

❑ **Mechanical seal**

SPECIFICATIONS

- **Stainless steel** outer sleeve.
- **Rewindable stator**.
- Class **Y insulation**.
- Protection class: **IP68**.
- Compensating bellows for internal liquid expansion.
- Axial load supported by Kingsbury type thrust bearing.
- **Mechanical seal** protected by sand guard.
- Maximum **immersion depth**: 350 m.
- Maximum **number of starts per hour** at regular intervals: 8.
- Maximum supply **voltage variations** allowed : ±10%.
- Maximum water **temperature**: 30°C.
  Max. temperature applies to motors working in a installation capable of delivering a flow of water around the motor jacket of at least 0,5 m/s.
- **Axial thrust**:
  65000 N from 93 to150 kW.
- **Power supply** cable suitable for drinkable water.
- **Versions**:
  - Three-phase:
    93 to 150 kW 380 V, 60 Hz.
    93 to 150 kW 460 V, 60 Hz.
- **Horizontal operation**:
  valid for all versions provided that the direction of the axial thrust generated by the impellers is always from the pump to the motor.

SPECIAL VERSIONS

- Motors with double cable outlet for star/delta start.
- **L10WN series**: complete range available realized of AISI 316 stainless steel.
- **L10WR series**: complete range available realized of Duplex stainless steel.
- **HT series**: complete range available for all the L10W/N/R construction, realized for applications in high temperature environments (**up to 60°C**) or under inverter.

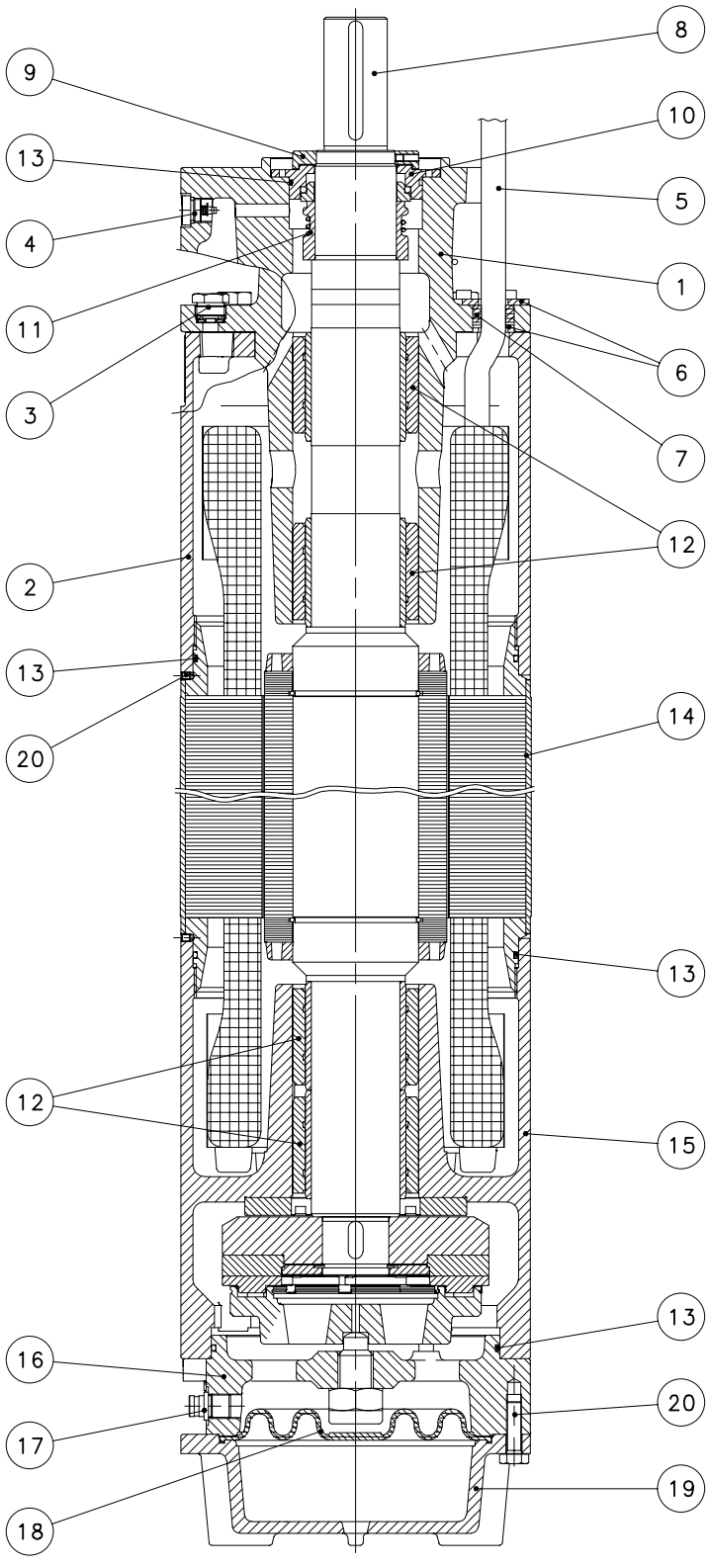
OPTIONAL FEATURES

- Silicon Carbide mechanical seal.
- Special voltages.

ACCESSORIES

- Temperature sensor **PT 100 / PTC**.

L10W - L10WN - L10WR MOTOR SERIES
MOTOR CROSS SECTION



L10W TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Cast iron	EN-GJL-200	Class 25 B
2	Spacer	Cast iron	EN-GJL-200	Class 25 B
3	Filling plug + OR	Stainless steel+NBR	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
4	Vent valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
5	Cable	EPR		
6	Cable gland plate	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI304
7	Cable gland	EPDM		
8	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Removable sand guard	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Mechanical seal cover	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
11	Mechanical seal	Carbon graphite / Aluminium oxide		
12	Bush bearings	Carbon graphite		
13	Elastomers	NBR		
14	Motor sleeve	Stainless steel	EN 10088-1-X2CrNi19-11 (1.4306)	AISI304L
15	Lower bracket	Cast iron	EN-GJL-200	Class 25 B
16	Thrust bearing bracket	Cast iron	EN-GJL-200	Class 25 B
17	Filling valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
18	Diaphragm	EPDM		
19	Lower cover	Cast iron	EN-GJL-200	Class 25 B
20	Bolts and screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI304
	Cooling liquid	Water + antifreeze		

L10w-2p50-en_a_tm

L10WN TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
2	Spacer	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
3	Filling plug + OR	Stainless steel+NBR	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
4	Vent valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
5	Cable	EPR		
6	Cable gland plate	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
7	Cable gland	EPDM		
8	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Removable sand guard	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Mechanical seal cover	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
11	Mechanical seal	Carbon graphite / Aluminium oxide		
12	Bush bearings	Carbon graphite		
13	Elastomers	NBR		
14	Motor sleeve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
15	Lower bracket	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
16	Thrust bearing bracket	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
17	Filling valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
18	Diaphragm	EPDM		
19	Lower cover	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
20	Bolts and screws	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
	Cooling liquid	Water + antifreeze		

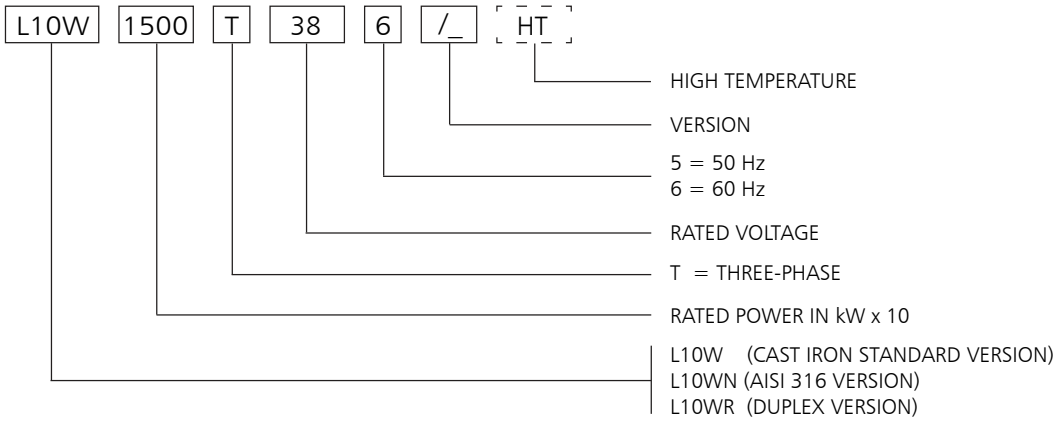
L10wn-2p50-en_a_tm

L10WR TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
2	Spacer	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
3	Filling plug + OR	Duplex s. s.+NBR	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
4	Vent valve	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
5	Cable	EPR		
6	Cable gland plate	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
7	Cable gland	EPDM		
8	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Removable sand guard	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
10	Mechanical seal cover	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
11	Mechanical seal	Carbon graphite / Aluminium oxide		
12	Bush bearings	Carbon graphite		
13	Elastomers	NBR		
14	Motor sleeve	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
15	Lower bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
16	Thrust bearing bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
17	Filling valve	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
18	Diaphragm	EPDM		
19	Lower cover	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
20	Bolts and screws	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
	Cooling liquid	Water + antifreeze		

L10wr-2p50-en_a_tm

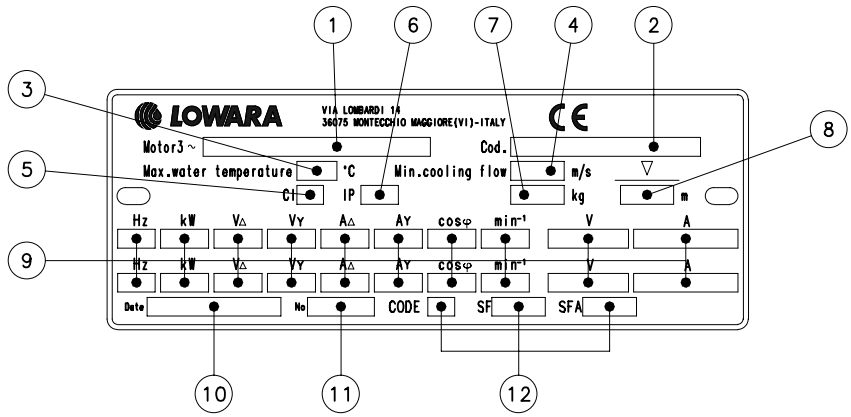
L10W MOTOR SERIES
IDENTIFICATION CODE



EXAMPLE : L10W1500T386/A HT

L10W MOTOR :
RATED POWER 150 kW; THREE-PHASE;
RATED VOLTAGE 380 V; 60 Hz; /A VERSION; HIGH TEMPERATURE

RATING PLATE



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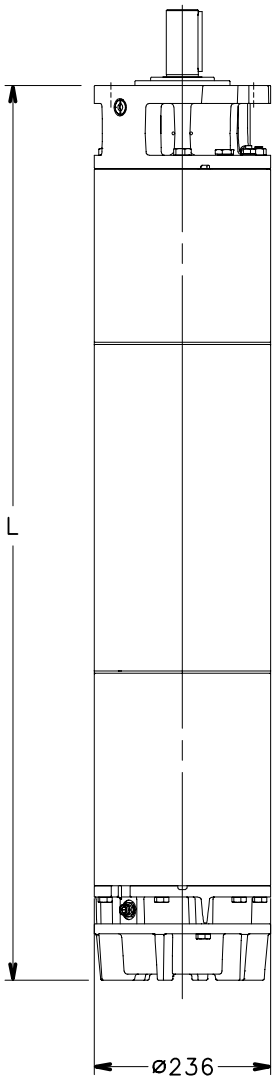
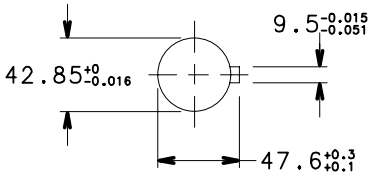
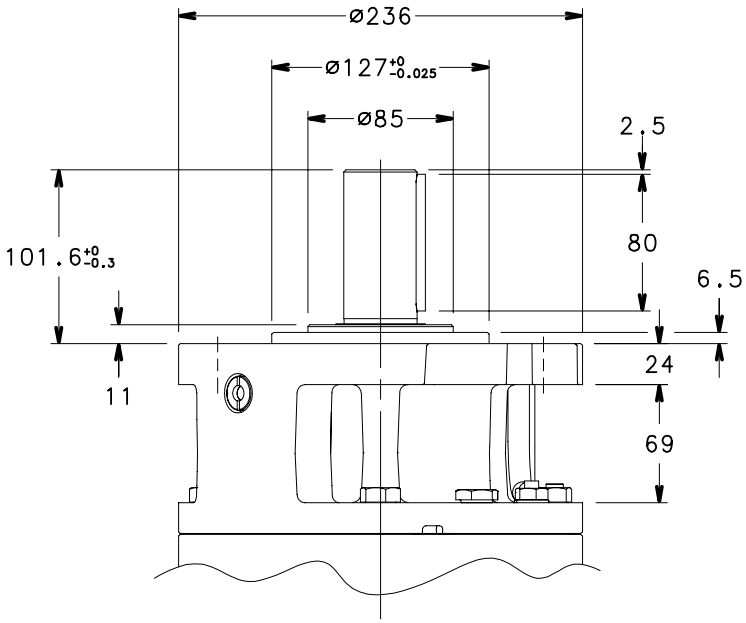
LEGEND

1 - Motor type
2 - Code
3 - Maximum water temperature
4 - Minimum water velocity
5 - Insulation class
6 - Protection class
7 - Weight
8 - Maximum immersion depht
9 - Operating characteristics
10 - Production date
11 - Serial number
12 - Characteristics at service factor

L10W MOTOR SERIES
DIMENSIONS AND WEIGHTS AT 60 Hz







MOTOR TYPE	RATED POWER		DIMENSIONS (mm)	WEIGHT
	kW	HP	L	kg
L10W930T386-405	93	125	1562	360
L10W1100T386-405	110	150	1702	401
L10W1300T386-405	130	175	1852	448
L10W1500T386-405	150	200	1982	487

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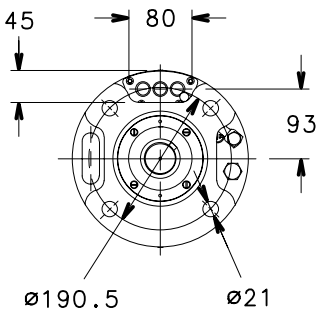

MOTOR TYPE	RATED POWER		DIMENSIONS (mm)	WEIGHT
	kW	HP	L	kg
L10W830T386-405 HT	83	110	1562	360
L10W930T386-405 HT	93	125	1702	401
L10W1100T386-405 HT	110	150	1852	448
L10W1300T386-405 HT	130	175	1982	487

l10w-ht-2p60_a_td

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L10W MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE THREE-PHASE	RATED POWER		RATED VOLTAGE	OPERATING CHARACTERISTICS AT RATED POWER				DIRECT ON-LINE STARTING			SERVICE FACTOR	SERVICE FACTOR AMPS	MAX WATER TEMP.	CABLE TYPE Sec. (mm^2)		
	kW	HP	V	A	rpm	η %	cosφ	Is/In	Ts/Tn	Tmax/Tn	SF	SFA	°C	DOL	Y/D	L (m)
L10W930T386	93	125	380	199	3510	85,0	0,84	5,55	1,02	2,22	1,15	228	30	50	25	5
L10W930T405			460	164								189		35	16	
L10W1100T386	110	150	380	275	3520	85,5	0,82	6,38	1,43	2,19	1,15	316	30	70	25	5
L10W1100T405			460	227								261		50	16	
L10W1300T386	130	175	380	286	3520	85,5	0,81	6,31	1,5	2,22	1,15	329	30	70	35	5
L10W1300T405			460	236								271		50	25	
L10W1500T386	150	200	380	329	3525	85,5	0,81	6,24	1,56	2,22	1,15	379	30	70	35	5
L10W1500T405			460	272								313		70	35	

Ts/Tn = ratio between starting torque and nominal torque.

l10w-2p60_b_te

Tmax/Tn = ratio between maximum torque and nominal torque.

L10W HT MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE THREE-PHASE	RATED POWER		RATED VOLTAGE	OPERATING CHARACTERISTICS AT RATED POWER				DIRECT ON-LINE STARTING			SERVICE FACTOR	SERVICE FACTOR AMPS	MAX WATER TEMP.	CABLE TYPE Sec. (mm^2)		
	kW	HP	V	A	rpm	η %	cosφ	Is/In	Ts/Tn	Tmax/Tn	SF	SFA	°C	DOL	Y/D	L (m)
L10W830T386 HT	83	110	380	180	3530	85,2	0,82	6,11	1,15	2,48	1,15	202	45	50	25	5
L10W830T405 HT			460	149								167		35	16	
L10W930T386 HT	93	125	380	212	3545	86,0	0,78	8,27	1,69	2,58	1,15	236	45	70	25	5
L10W930T405 HT			460	175								195		50	16	
L10W1100T386 HT	110	150	380	254	3545	87,6	0,75	7,09	1,77	2,62	1,15	281	45	70	35	5
L10W1100T405 HT			460	210								232		50	25	
L10W1300T386 HT	130	175	380	298	3550	86,4	0,77	6,90	1,80	2,56	1,15	330	45	70	35	5
L10W1300T405 HT			460	246								273		70	35	

Ts/Tn = ratio between starting torque and nominal torque.

l10w-ht-2p60_a_te

Tmax/Tn = ratio between maximum torque and nominal torque.

12" Submersible motors

L12W Series 60 Hz

- ❑ **Rewindable stator**
- ❑ **Thrust bearing Kingsbury type**
- ❑ **Mechanical seal**

Water filled submersible motors.
The robust design together with excellent choise of materials ensures optimal performance, ease of installation and reliability in all applications. For extremely demanding operation as high water temperature or aggressive environments special versions are available.

SPECIFICATIONS

- **Stainless steel** outer sleeve.
- **Rewindable stator**.
- Class **Y insulation**.
- Protection class: **IP68**.
- Compensating bellows for internal liquid expansion.
- Axial load supported by Kingsbury type thrust bearing.
- **Mechanical seal** protected by sand guard.
- Maximum **immersion depth**: 350 m.
- Maximum **number of starts per hour** at regular intervals: 4.
- Maximum supply **voltage variations** allowed : ±10%.
- Maximum water **temperature**: 30°C.
  Max. temperature applies to motors working in a installation capable of delivering a flow of water around the motor jacket of at least 0,5 m/s.
- **Axial thrust**:
  65000 N from 185 to 300 kW.
- **Power supply** cable suitable for drinkable water.
- **Versions**:
  - Three-phase:
    185 to 300 kW 380 V, 60 Hz.
    185 to 300 kW 460 V, 60 Hz.
- **Horizontal operation**:
  valid for all versions provided that the direction of the axial thrust generated by the impellers is always from the pump to the motor.

SPECIAL VERSIONS

- Motors with double cable outlet for star/delta start.
- **L12WN series**: complete range available realized of AISI 316 stainless steel.
- **L12WR series**: complete range available realized of Duplex stainless steel.
- **HT series**: complete range available for all the L12W/N/R construction, realized for applications in high temperature environments (**up to 60°C**) or under inverter.

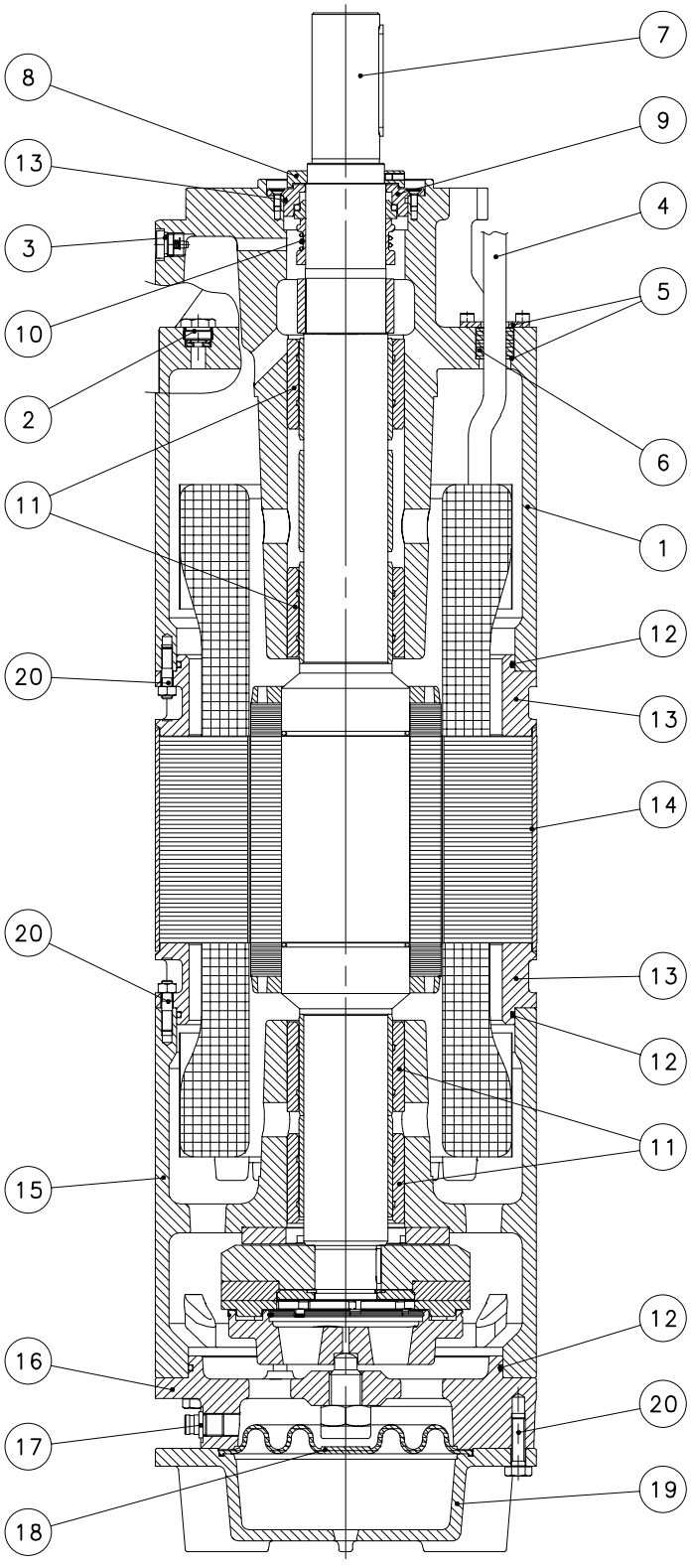
OPTIONAL FEATURES

- Silicon Carbide mechanical seal.
- Special voltages.

ACCESSORIES

- Temperature sensor **PT 100 / PTC**.

L12W - L12WN - L12WR MOTOR SERIES
MOTOR CROSS SECTION



L12W TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Cast iron	EN-GJL-200	Class 25 B
2	Filling plug + OR	Stainless steel+NBR	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
3	Vent valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
4	Cable	EPR		
5	Cable gland plate	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
6	Cable gland	EPDM		
7	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
8	Removable sand guard	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
9	Mechanical seal cover	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Mechanical seal	Carbon graphite / Aluminium oxide		
11	Bush bearings	Carbon graphite		
12	Elastomers	NBR		
13	Stator flanges	Steel	UNI 3158 - Fe 52	
14	Motor sleeve	Stainless steel	EN 10088-1-X2CrNi19-11 (1.4306)	AISI304L
15	Lower bracket	Cast iron	EN-GJL-200	Class 25 B
16	Thrust bearing bracket	Cast iron	EN-GJL-200	Class 25 B
17	Filling valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
18	Diaphragm	EPDM		
19	Lower cover	Cast iron	EN-GJL-200	Class 25 B
20	Bolts and screws	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI304
	Cooling liquid	Water + antifreeze		

L12w-2p50-en_a_tm

L12WN TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
2	Filling plug + OR	Stainless steel+NBR	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
3	Vent valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
4	Cable	EPR		
5	Cable gland plate	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
6	Cable gland	EPDM		
7	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
8	Removable sand guard	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
9	Mechanical seal cover	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Mechanical seal	Carbon graphite / Aluminium oxide		
11	Bush bearings	Carbon graphite		
12	Elastomers	NBR		
13	Stator flanges	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
14	Motor sleeve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
15	Lower bracket	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
16	Thrust bearing bracket	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
17	Filling valve	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
18	Diaphragm	EPDM		
19	Lower cover	Stainless steel	EN 10213-4 - GX5CrNiMo19-11-2 (1.4408)	ASTM CF-8M (AISI 316 cast)
20	Bolts and screws	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
	Cooling liquid	Water + antifreeze		

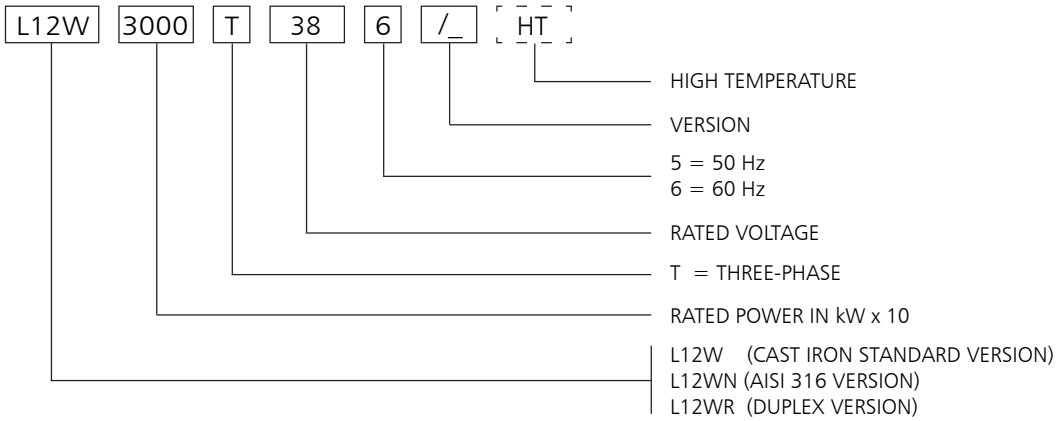
L12wn-2p50-en_a_tm

L12WR TABLE OF MATERIALS

REF. N°	PART	MATERIAL	DESIGNATION	
			EUROPE	USA
1	Upper bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
2	Filling plug + OR	Duplex s. s.+NBR	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
3	Vent valve	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
4	Cable	EPR		
5	Cable gland plate	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
6	Cable gland	EPDM		
7	Shaft end	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
8	Removable sand guard	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
9	Mechanical seal cover	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
10	Mechanical seal	Carbon graphite / Aluminium oxide		
11	Bush bearings	Carbon graphite		
12	Elastomers	NBR		
13	Stator flanges	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
14	Motor sleeve	Stainless steel	EN 10088-1X1NiCrMoCu25-20-5 (1.4539)	AISI 904L
15	Lower bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
16	Thrust bearing bracket	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
17	Filling valve	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
18	Diaphragm	EPDM		
19	Lower cover	Duplex stainless steel	EN 10213-4-GX2CrNiMoCuN25-6-3-3 (1.4517)	
20	Bolts and screws	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	A276/A790-S31803
	Cooling liquid	Water + antifreeze		

L12wr-2p50-en_a_tm

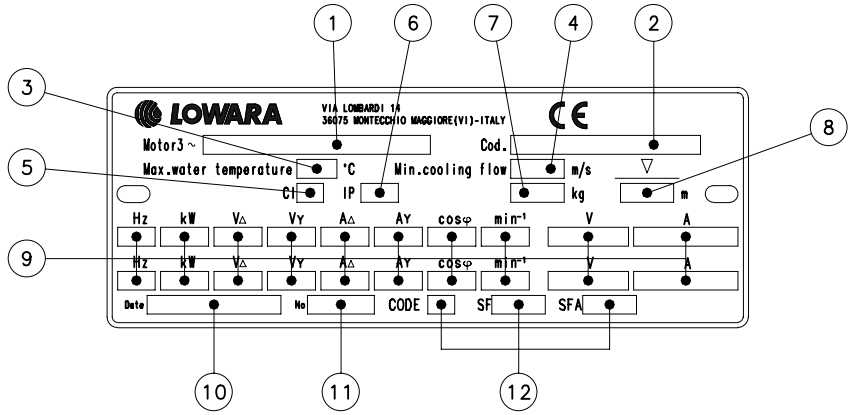
L12W MOTOR SERIES
IDENTIFICATION CODE



EXAMPLE : L12W3000T386/A HT

L12W MOTOR :
RATED POWER 300 kW; THREE-PHASE;
RATED VOLTAGE 380 V; 60 Hz; /A VERSION; HIGH TEMPERATURE

RATING PLATE



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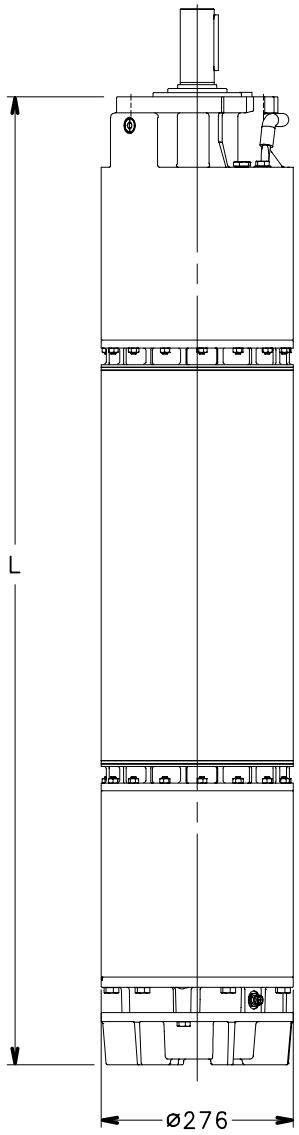
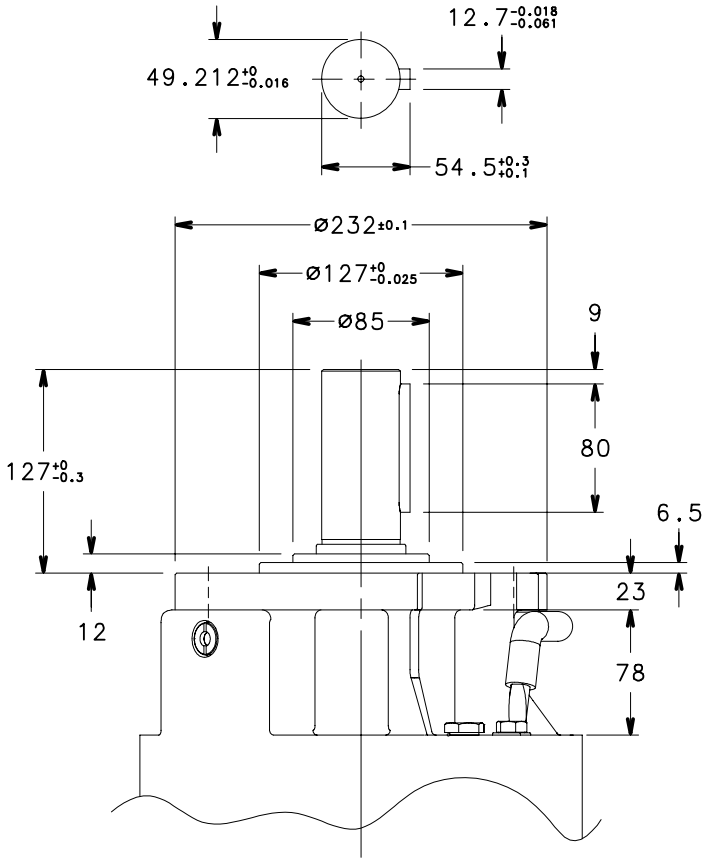
LEGEND

1 - Motor type
2 - Code
3 - Maximum water temperature
4 - Minimum water velocity
5 - Insulation class
6 - Protection class
7 - Weight
8 - Maximum immersion depht
9 - Operating characteristics
10 - Production date
11 - Serial number
12 - Characteristics at service factor

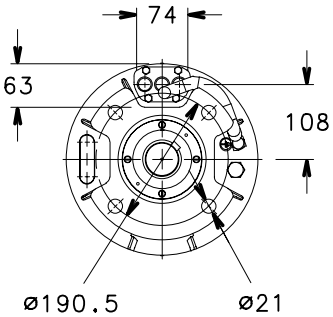
L12W MOTOR SERIES
DIMENSIONS AND WEIGHTS AT 60 Hz





MOTOR TYPE	RATED POWER		DIMENSIONS (mm)	WEIGHT
	kW	HP	L	kg
L12W1850T386-405	185	250	1739	552
L12W2200T386-405	220	300	1889	616
L12W2600T386-405	260	350	2039	680
L12W3000T386-405	300	400	2189	745

l12w-2p60_a_td



MOTOR TYPE	RATED POWER		DIMENSIONS (mm)	WEIGHT
	kW	HP	L	kg
L12W1500T386-405 HT	150	200	1739	552
L12W1850T386-405 HT	185	250	1889	616
L12W2200T386-405 HT	220	300	2039	680
L12W2600T386-405 HT	260	350	2189	745

l12w-ht-2p60_a_td

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L12W MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE THREE-PHASE	RATED POWER		RATED VOLTAGE	OPERATING CHARACTERISTICS AT RATED POWER				DIRECT STARTING			SERVICE FACTOR	SERVICE FACTOR AMPS	MAX WATER TEMP.	CABLE TYPE Sec. (mm^2)		
	kW	HP	V	A	rpm	η %	cosφ	Is/In	Ts/Tn	Tmax/Tn	SF	SFA	°C	DOL	Y/D	L (m)
L12W1850T386	185	250	380	387	3515	85,5	0,85	6,59	1,50	2,22	1,15	445	30	95	50	5
L12W1850T405			460	320								368		70	35	
L12W2200T386	220	300	380	466	3515	85,5	0,84	6,66	1,41	2,22	1,15	536	30	120	70	5
L12W2200T405			460	385								443		95	50	
L12W2600T386	260	350	380	541	3515	86,0	0,85	6,05	1,41	2,22	1,15	622	30	150	70	5
L12W2600T405			460	447								514		120	50	
L12W3000T386	300	400	380	620	3515	86,5	0,85	6,43	1,18	2,22	1,15	713	30	-	95	5
L12W3000T405			460	512								589		2x70	70	

Ts/Tn = ratio between starting torque and nominal torque.

l12w-2p60_b_te

Tmax/Tn = ratio between maximum torque and nominal torque.

L12W HT MOTOR SERIES
THREE-PHASE OPERATING CHARACTERISTICS AT 60 Hz

MOTOR TYPE THREE-PHASE	RATED POWER		RATED VOLTAGE	OPERATING CHARACTERISTICS AT RATED POWER				DIRECT STARTING			SERVICE FACTOR	SERVICE FACTOR AMPS	MAX WATER TEMP.	CABLE TYPE Sec. (mm^2)		
	kW	HP	V	A	rpm	η %	cosφ	Is/In	Ts/Tn	Tmax/Tn	SF	SFA	°C	DOL	Y/D	L (m)
L12W1850T386 HT	150	200	380	321	3545	88,0	0,82	7,96	1,85	2,74	1,15	363	45	95	50	5
L12W1850T405 HT			460	265								300		70	35	
L12W1850T386 HT	185	250	380	395	3540	88,0	0,80	7,86	1,68	2,64	1,15	442	45	120	70	5
L12W1850T405 HT			460	326								365		95	50	
L12W2200T386 HT	220	300	380	448	3535	89,0	0,82	7,31	1,67	2,62	1,15	514	45	150	70	5
L12W2200T405 HT			460	370								425		120	50	
L12W2600T386 HT	260	350	380	539	3525	88,5	0,83	7,40	1,36	2,56	1,15	611	45	-	95	5
L12W2600T405 HT			460	445								505		2x70	70	

Ts/Tn = ratio between starting torque and nominal torque.

l12w-ht-2p60_a_te

Tmax/Tn = ratio between maximum torque and nominal torque.

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ACCESSORIES

Motor - Control Panel Combination Table 52

Electrical Panels 55

Level control panel 63

Level probe module 64

Lightning protection 65

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4OS - L4C MOTOR SERIES
MOTOR - CONTROL PANEL COMBINATION TABLE

MOTOR TYPE 4OS - 4" SINGLE-PHASE	RATED POWER		CURRENT AT S.F. 220-230 V	CAPACITOR	PANEL TYPE					
	kW	HP	A	µF / 450 V	QSC...	QSCS...				
	0,37	0,5	4,50	20	...036	...036				
	0,55	0,75	6,23	25	...056	...056				
	0,75	1	7,41	35	...076	...076				
	1,1	1,5	9,34	40	...116	...116				
	1,5	2	12,2	50	...156	...156				
	2,2	3	17,1	50	...226	...226				

For different voltages, please contact our sales network.

4OSM-2p60-en_b_tc

MOTOR TYPE 4OS - 4" THREE-PHASE	RATED POWER		CURRENT AT S.F. 380 V		PANEL TYPE					
	kW	HP	A		QTD/...	Q3D/...	Q3I/...	Q3A/...	*Q3Y/...	Q3SF/...
	0,37	0,5	1,83		...05-07	...05-07	-	-	-	-
	0,55	0,75	2,31		...05-07	...05-07	-	-	-	-
	0,75	1	3,01		...07-15	...07-15	-	-	-	-
	1,1	1,5	3,77		...07-15	...07-15	-	-	-	-
	1,5	2	4,85		...15-22	...15-22	-	-	-	-
	2,2	3	6,69		...22-40	...22-40	-	-	-	-
	3	4	8,35		...22-40	...22-40	-	-	-	-
	4	5,5	10,2		...40-75	...40-75	...40-75	...40-75	...40-75	...75
	5,5	7,5	14,1		...40-75	...40-75	...40-75	...40-75	...40-75	...75
	7,5	10	21,2		-	...92-110	...92-110	...92-110	...92-110	...150

For different voltages, please contact our sales network.

4OST-2p60-en_b_tc

* require 6-wire suitable motor

MOTOR TYPE L4C - 4" SINGLE PHASE	RATED POWER		CURRENT AT S.F. 220-230 V	CAPACITOR	PANEL TYPE					
	kW	HP	A	µF / 450 V	QSC/...	QSCS/...				
	0,37	0,5	5,5	20	...036	...036				
	0,55	0,75	7,4	25	...056A	...056A				
	0,75	1	8,9	35	...076	...076				
	1,1	1,5	12,7	40	...116A	...116A				
	1,5	2	13,1	50	...156	...156				
	2,2	3	17,6	50	...226	...226				
	3,7	5	30,7	75	...406	...406				

For different voltages please contact our sales network

L4cm-2p60_d_tc

MOTOR TYPE L4C - 4" THREE PHASE	RATED POWER		CURRENT AT S.F. 380 V	PANEL TYPE					
	kW	HP	A	QTD/...	Q3D/...	Q3I/...	Q3A/...	*Q3Y/...	Q3SF/...
	0,37	0,5	2,3	...05-07	...05-07	-	-	-	-
	0,55	0,75	2,9	...07-15	...07-15	-	-	-	-
	0,75	1	3,4	...07-15	...07-15	-	-	-	-
	1,1	1,5	4,7	...15-22	...15-22	-	-	-	-
	1,5	2	5,9	...15-22	...15-22	-	-	-	-
	2,2	3	7,2	...22-40	...22-40	-	-	-	-
	3	4	9,5	...22-40	...22-40	-	-	-	...75
	4	5,5	11,6	...40-75	...40-75	...40-75	...40-75	...40-75	...75
	5,5	7,5	15,7	...40-75	...40-75	...40-75	...40-75	...40-75	...75
	7,5	10	20	-	...92-110	...92-110	...92-110	...92-110	...150

For different voltages please contact our sales network

L4ct-2p60_b_tc

* Require 6-wire suitable motor

L6C - L6W MOTOR SERIES
MOTOR - CONTROL PANEL COMBINATION TABLE

MOTOR TYPE L6C - 6" THREE-PHASE	RATED POWER		CURRENT AT S.F. 380 V	PANEL TYPE					
	kW	HP	A	QTD/...	Q3D/...	*Q3Y/...	Q3I/...	Q3A/...	Q3SF/...
	4	5,5	11,5	...40-75	...40-75	...40-75	...40-75	...40-75	...75
	5,5	7,5	16,1	...75-92	...75-92	...75-92	...75-92	...75-92	...75
	7,5	10	20	-	...92-110	...92-110	...92-110	...92-110	...150
	9,3	12,5	25	-	...110-150	...110-150	...110-150	...110-150	...150
	11	15	28,2	-	...110-150	...110-150	...110-150	...110-150	...150
	15	20	37,3	-	...150-185	...150-185	...150-185	...150-185	...220
	18,5	25	48,4	-	...185-220	...185-220	...185-220	...185-220	...300
	22	30	60,2	-	...220-300	...220-300	...220-300	...220-300	...370
	30	40	75	-	-	...370-450	...370-450	...370-450	...450
	37	50	90	-	-	...450-550	...450-550	...450-550	...550

For different voltages please contact our sales network

L6c-2p60_b_tc

* require 6-wire suitable motor

MOTOR TYPE L6W - 6" THREE-PHASE	RATED POWER		CURRENT AT S.F. 380 V	PANEL TYPE					
	kW	HP	A	QTD/...	Q3D/...	Q3I/...	Q3A/...	Q3Y/...	Q3SF/...
	4	5,5	11,2	...40-75	...40-75	...40-75	...40-75	...40-75	...75
	5,5	7,5	15,1	...40-75	...40-75	...40-75	...40-75	...40-75	...75
	7,5	10	19,4	...75-92	...75-92	...75-92	...75-92	...75-92	...150
	9,3	12,5	23,8	-	...92-110	...92-110	...92-110	...92-110	...150
	11	15	27,8	-	...110-150	...110-150	...110-150	...110-150	...150
	13	17,5	32,9	-	...150-185	...150-185	...150-185	...150-185	...220
	15	20	36,6	-	...150-185	...150-185	...150-185	...150-185	...220
	18,5	25	45,1	-	...185-220	...185-220	...185-220	...185-220	...300
	22	30	53,8	-	...220-300	...220-300	...220-300	...220-300	...300
	26	35	66,5	-	...300-370	...300-370	...300-370	...300-370	...370
	30	40	72,6	-	...300-370	...300-370	...300-370	...300-370	...370
	37	50	95,9	-	-	...450-550	...450-550	...450-550	...550
MOTOR TYPE	4	5,5	12,3	...40-75	...40-75	...40-75	...40-75	...40-75	...75
L6W HT - 6"	5,5	7,5	15,5	...40-75	...40-75	...40-75	...40-75	...40-75	...75
THREE-PHASE	7,5	10	20,2	...92-110	...92-110	...92-110	...92-110	...92-110	...150
	9,3	12,5	24,2	-	...92-110	...92-110	...92-110	...92-110	...150
	11	15	28,9	-	...110-150	...110-150	...110-150	...110-150	...150
	13	17,5	34,1	-	...150-185	...150-185	...150-185	...150-185	...220
	15	20	38,3	-	...150-185	...150-185	...150-185	...150-185	...220
	18,5	25	46,3	-	...185-220	...185-220	...185-220	...185-220	...300
	22	30	58,6	-	...220-300	...220-300	...220-300	...220-300	...300
	26	35	64,8	-	...300-370	...300-370	...300-370	...300-370	...370
	30	40	82,1	-	...370-450	...370-450	...370-450	...370-450	...450

For different voltages, please contact our sales network.

L6w-2p60_b_tc

LOWARA
a xylem brand

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

MOTOR TYPE L8W - 8" THREE-PHASE	RATED POWER		CURRENT AT S.F. 380 V	PANEL TYPE					
	kW	HP	A		Q3I/...	Q3A/...	Q3SF/...		
	30	40	78,0		...370-450	...370-450	...450		
	37	50	96,1		...450-550	...450-550	...550		
	45	60	114		...550-750	...550-750	...590		
	52	70	134		...550-750	...550-750	...750		
	55	75	139		...750-900	...750-900	...750		
	60	80	149		...750-900	...750-900	...900		
	67	90	168		...750-900	...750-900	...900		
	75	100	187		...900-1100	...900-1100	...1100		
	83	110	206		...900-1100	...900-1100	...1100		
	93	125	231		...1100-1320	...1100-1320	...1100		
MOTOR TYPE L8W HT - 8" THREE-PHASE	30	40	78,7		...370-450	...370-450	...450		
	37	50	92,0		...450-550	...450-550	...550		
	45	60	107		...450-550	...450-550	...590		
	52	70	129		...550-750	...550-750	...750		
	55	75	136		...550-750	...550-750	...750		
	60	80	149		...750-900	...750-900	...900		
	67	90	166		...750-900	...750-900	...900		
	75	100	185		...900-1100	...900-1100	...900		
	83	110	197		...900-1100	...900-1100	...1100		

For different voltages, please contact our sales network.

L8w-2p60_c_tc

MOTOR TYPE L10W - 10" THREE-PHASE	RATED POWER		CURRENT AT S.F. 380 V	PANEL TYPE					
	kW	HP	A	Q3I/...	Q3A/...	Q3SF/...			
	93	125	228	...1100-1320	...1100-1320	...1100			
	110	150	316	...1600-2000	...1600-2000	(1)			
	130	175	329	...1600-2000	...1600-2000	(1)			
	150	200	379	...1600-2000	...1600-2000	(1)			
MOTOR TYPE L10W HT - 10" THREE-PHASE	83	110	202	...900-1100	...900-1100	...1100			
	93	125	236	...1320-1600	...1320-1600	...1100			
	110	150	281	...1320-1600	...1320-1600	(1)			
	130	175	330	...1600-2000	...1600-2000	(1)			

(1) On request.

L10w-2p60_c_tc

For different voltages, please contact our sales network.

MOTOR TYPE L12W - 12" THREE-PHASE	RATED POWER		CURRENT AT S.F. 380 V	PANEL TYPE					
	kW	HP	A	Q3I/...	Q3A/...	Q3SF/...			
	185	250	445	...2000-2500	...2000-2500	(1)			
	220	300	536	...2500-3150	...2500-3150	(1)			
	260	350	622	(1)	(1)	(1)			
	300	400	713	(1)	(1)	(1)			
MOTOR TYPE L12W HT - 12" THREE-PHASE	150	200	363	...1600-2000	...1600-2000	(1)			
	185	250	442	...2000-2500	...2000-2500	(1)			
	220	300	514	...2500-3150	...2500-3150	(1)			
	260	350	611	(1)	(1)	(1)			

(1) On request.

L12w-2p60_c_tc

For different voltages, please contact our sales network.

Single-phase Electric Panel

APPLICATIONS

- Protection and control of a single-phase submersible electric pump for 4" wells.

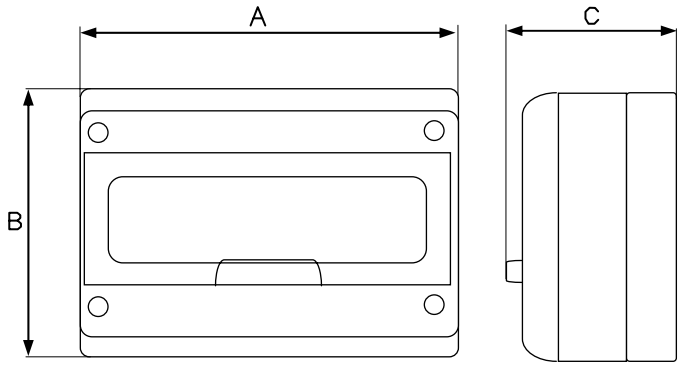
QSC Series (60 Hz)

SPECIFICATIONS

- Main switch for manual control.
- Supply voltage: 1 x 230 V ±10%.
- Frequency: 60 Hz.
- Power: 0,37 to 4 kW.
- Direct motor start.
- Protection class: IP55.
- Ambient temperature: -5 to +40 °C (according to EN 60439-1).
- Maximum relative humidity: 50% at +40°C, provided that no condensation occurs (according to EN 60439-1).
- Wall mounted.
- Plastic enclosure.
- Incorporated capacitor.
- Main switch with thermal protection.

OPTIONAL ACCESSORIES

- DPF single-phase module for overvoltage protection (lightning protector).



MODEL	RATED VOLTAGE	RATED POWER		RATED CURRENT	DIMENSIONS			WEIGHT	CAPACITOR
					A	B	C		
	V	kW	HP	A	mm	mm	mm	Kg	µF/450V
QSC/036	1 x 230 V ± 10 %	0,37	0,5	4 ÷ 6,3	205	220	160	1,7	20
QSC/056	1 x 230 V ± 10 %	0,55	0,75	4 ÷ 6,3	205	220	160	1,7	25
QSC/056A	1 x 230 V ± 10 %	0,55	0,75	6,3 ÷ 10	205	220	160	1,7	25
QSC/076	1 x 230 V ± 10 %	0,75	1	6,3 ÷ 10	205	220	160	1,7	35
QSC/116	1 x 230 V ± 10 %	1,1	1,5	6,3 ÷ 10	205	220	160	1,7	40
QSC/116A	1 x 230 V ± 10 %	1,1	1,5	10 ÷ 16	205	220	160	1,7	40
QSC/156	1 x 230 V ± 10 %	1,5	2	10 ÷ 16	205	220	160	1,7	50
QSC/226	1 x 230 V ± 10 %	2,2	3	16 ÷ 20	205	220	160	2,7	50
QSC/406	1 x 230 V ± 10 %	4	5,5	25 ÷ 32	280	220	160	3	75

CB-QSC6-en_c_te

Single-phase Electric Panel

APPLICATIONS

- Protection and control of a single-phase submersible electric pump for 4" wells.

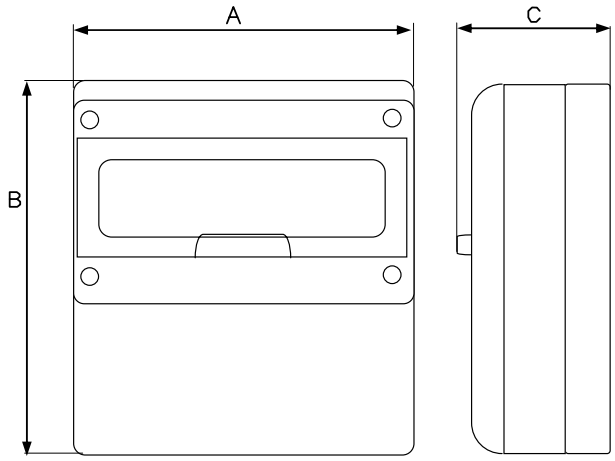
QSCS Series (60 Hz)

SPECIFICATIONS

- Automatic control through an external enable contact.
- Supply voltage: 1 x 230 V ±10%.
- Frequency: 60 Hz.
- Power: 0,37 to 2,2 kW.
- Direct motor start.
- Protection class: IP55.
- Ambient temperature: -5 to +40 °C (according to EN 60439-1).
- Maximum relative humidity: 50% at +40°C, provided that no condensation occurs (according to EN 60439-1).
- Wall mounted.
- Plastic enclosure.
- Incorporated capacitor.
- Main switch with thermal protection.
- Dry running control with float or minimum pressure switch (available separately).

OPTIONAL ACCESSORIES

- DPF single-phase module for overvoltage protection (lightning protector).
- KSL series 24 V level kit. Probe module for protection against dry running (set of three electrodes included in the supply).



MODEL	RATED VOLTAGE	RATED POWER		RATED CURRENT	DIMENSIONS			WEIGHT	CAPACITOR
					A	B	C		
	V	kW	HP	A	mm	mm	mm	Kg	µF/450V
QSCS/036	1 x 230 V ± 10 %	0,37	0,5	4 ÷ 6,3	280	370	160	3,7	20
QSCS/056	1 x 230 V ± 10 %	0,55	0,75	4 ÷ 6,3	280	370	160	3,7	25
QSCS/056A	1 x 230 V ± 10 %	0,55	0,75	6,3 ÷ 10	280	370	160	3,7	25
QSCS/076	1 x 230 V ± 10 %	0,75	1	6,3 ÷ 10	280	370	160	3,7	35
QSCS/116	1 x 230 V ± 10 %	1,1	1,5	6,3 ÷ 10	280	370	160	3,7	40
QSCS/116A	1 x 230 V ± 10 %	1,1	1,5	10 ÷ 16	280	370	160	3,7	40
QSCS/156	1 x 230 V ± 10 %	1,5	2	10 ÷ 16	280	370	160	3,7	50
QSCS/226	1 x 230 V ± 10 %	2,2	3	16 ÷ 20	280	370	160	3,7	50
QSCS/406	1 x 230 V ± 10 %	4	5,5	25 ÷ 32	280	370	160	4	75

CB-QSCS6-en_d_te

Three-phase Electric Panel

APPLICATIONS

- Protection and control of a three-phase surface or submersible electric pump.

QTD Series

SPECIFICATIONS

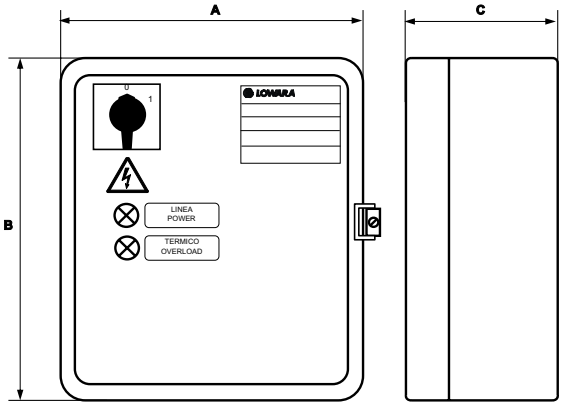
- Control through an external enable contact.
- Supply voltage: 3 x 400 V ±10%.
- Frequency: 50/60 Hz.
- Power: 0,25 to 9,2 kW.
- Direct motor start.
- Short-circuit and overload protection.
- Protection class: IP54.
- Ambient temperature: -5 to +40 °C (according to EN 60439-1).
- Maximum relative humidity: 50% at +40°C, provided that no condensation occurs (according to EN 60439-1).
- Wall mounted.
- Metal enclosure.
- Ready for installation of dry running control float or pressure switch (to be ordered separately).
- Power and thermal overload indicator lights.

OPTIONAL ACCESSORIES

- VR3 three-phase module for overvoltage protection (lightning protector).
- KSL series 24 V level kit. Probe module for protection against dry running (set of three electrodes included in the supply).

SELECTION

- For a suitable choice of control panel, be sure the electrical input of the motor (Ampere) is included in the rated current value mentioned in the table below.



MODEL	RATED VOLTAGE	RATED POWER		RATED CURRENT	DIMENSIONS			WEIGHT
					A	B	C	
	V	kW	HP	A	mm	mm	mm	Kg
QTD/02-03	3 x 400 V ± 10 %	0,25-0,37	0,33-0,50	0,63 ÷ 1	235	265	150	5,8
QTD/03-05	3 x 400 V ± 10 %	0,37-0,55	0,55-0,75	1 ÷ 1,6	235	265	150	5,8
QTD/05-07	3 x 400 V ± 10 %	0,55-0,75	0,75-1	1,6 ÷ 2,5	235	265	150	5,8
QTD/07-15	3 x 400 V ± 10 %	0,75-1,5	1-2	2,5 ÷ 4	235	265	150	5,8
QTD/15-22	3 x 400 V ± 10 %	1,5-2,2	2-3	4 ÷ 6,3	235	265	150	5,8
QTD/22-40	3 x 400 V ± 10 %	2,2-4	3-5,5	6,3 ÷ 10	235	265	150	5,8
QTD/40-75	3 x 400 V ± 10 %	4-7,5	5,5-10	10 ÷ 16	235	265	150	5,8
QTD/75-92	3 x 400 V ± 10 %	7,5-9,2	10-12,5	16 ÷ 20	235	265	150	5,8

CB-QTD-en_c_te

Three-phase Electric Panel

APPLICATIONS

- Protection and control of a three-phase surface or submersible electric pump.

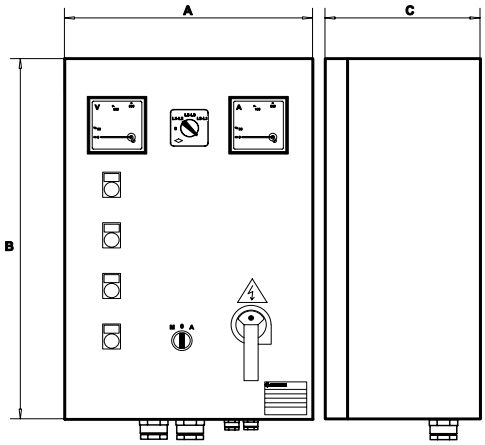
Q3D Series

SPECIFICATIONS

- Manual control through an Auto/Man selector switch.
- Automatic control through an external enable contact.
- Supply voltage: 3 x 400 V ±10%.
- Frequency: 50/60 Hz.
- 24 V AC low voltage auxiliary circuit.
- Power: 0,25 to 37 kW.
- Direct motor start.
- Short-circuit and overload protection.
- Protection class: IP54.
- Ambient temperature: -5 to +40 °C (according to EN 60439-1).
- Maximum relative humidity: 50% at +40°C, provided that no condensation occurs (according to EN 60439-1).
- Wall mounted.
- Metal enclosure.
- Power, pump running, thermal overload and dry running indicator lights.
- Ready for installation of dry running control float or pressure switch (to be ordered separately). Can be equipped with electronic protection module with electrodes.

OPTIONAL ACCESSORIES

- KSL series 24 V level kit. Probe module for protection against dry running (set of three electrodes included in the supply).
- Float.
- Pressure switch.
- VR3/SCA3 three-phase module for overvoltage protection (lightning protector).



MODEL	RATED VOLTAGE	RATED POWER		RATED CURRENT	DIMENSIONS			WEIGHT
					A	B	C	
	V	kW	HP	A	mm	mm	mm	Kg
Q3D/02-03	3 x 400 V ± 10 %	0,25-0,37	0,33-0,50	0,63 ÷ 1	300	400	200	15
Q3D/03-05	3 x 400 V ± 10 %	0,37-0,55	0,5-0,75	1 ÷ 1,6	300	400	200	15
Q3D/05-07	3 x 400 V ± 10 %	0,55-0,75	0,75-1	1,6 ÷ 2,5	300	400	200	15
Q3D/07-15	3 x 400 V ± 10 %	0,75-1,5	1-2	2,5 ÷ 4	300	400	200	15
Q3D/15-22	3 x 400 V ± 10 %	1,5-2,2	2-3	4 ÷ 6,3	300	400	200	15
Q3D/22-40	3 x 400 V ± 10 %	2,2-4	3-5,5	6,3 ÷ 10	300	400	200	15
Q3D/40-75	3 x 400 V ± 10 %	4-7,5	5,5-10	10 ÷ 16	300	400	200	15
Q3D/75-92	3 x 400 V ± 10 %	7,5-9,2	10-12,5	16 ÷ 20	300	400	200	15
Q3D/92-110	3 x 400 V ± 10 %	9,2-11	12,5-15	20 ÷ 25	300	400	200	20
Q3D/110-150	3 x 400 V ± 10 %	11-15	15-20	22 ÷ 32	400	500	200	20
Q3D/150-185	3 x 400 V ± 10 %	15-18,5	20-25	28 ÷ 40	400	500	200	20
Q3D/185-220	3 x 400 V ± 10 %	18,5-22	25-30	36 ÷ 50	400	600	200	27
Q3D/220-300	3 x 400 V ± 10 %	22-30	30-40	45 ÷ 63	400	600	200	27
Q3D/300-370	3 x 400 V ± 10 %	30-37	40-50	57 ÷ 75	400	600	200	27

CB-Q3D-en_a_te

Three-phase Electric Panel

Q3Y Series

APPLICATIONS

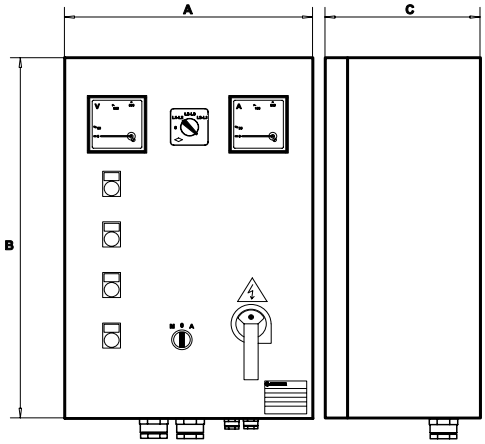
- Protection and control of a three-phase surface or submersible electric pump.

SPECIFICATIONS

- Manual control through an Auto/Man selector switch.
- Automatic control through an external enable contact.
- Supply voltage: 3 x 400 V ±10%.
- Frequency: 50/60 Hz.
- 24 V AC low voltage auxiliary circuit.
- Power: 4 to 315 kW.
- Star-delta starting.
- Short-circuit and overload protection.
- Protection class: IP54.
- Ambient temperature: -5 to +40 °C (according to EN 60439-1).
- Maximum relative humidity: 50% at +40°C, provided that no condensation occurs (according to EN 60439-1).
- Wall mounted.
- Metal enclosure.
- Power, pump running, thermal overload and dry running indicator lights.
- Ready for installation of dry running control float or pressure switch (to be ordered separately). Can be equipped with electronic protection module with electrodes.

OPTIONAL ACCESSORIES

- KSL series 24 V level kit. Probe module for protection against dry running (set of three electrodes included in the supply).
- Float.
- Pressure switch.
- VR3/SCA3 three-phase module for overvoltage protection (lightning protector).



MODEL	RATED VOLTAGE	RATED POWER		RATED CURRENT	DIMENSIONS			WEIGHT
					A	B	C	
	V	kW	HP	A	mm	mm	mm	Kg
Q3Y/40-75	3 x 400 V ± 10 %	4-7,5	5,5-10	10 ÷ 16	400	600	200	23
Q3Y/75-92	3 x 400 V ± 10 %	7,5-9,2	10-12,5	16 ÷ 20	400	600	200	23
Q3Y/92-110	3 x 400 V ± 10 %	9,2-11	12,5-15	20 ÷ 25	400	600	200	23
Q3Y/110-150	3 x 400 V ± 10 %	11-15	15-20	22 ÷ 32	400	600	200	23
Q3Y/150-185	3 x 400 V ± 10 %	15-18,5	20-25	28 ÷ 40	400	600	200	23
Q3Y/185-220	3 x 400 V ± 10 %	18,5-22	25-30	36 ÷ 50	500	700	200	32
Q3Y/220-300	3 x 400 V ± 10 %	22-30	30-40	45 ÷ 63	500	700	200	32
Q3Y/300-370	3 x 400 V ± 10 %	30-37	40-50	57 ÷ 75	600	800	250	68
Q3Y/370-450	3 x 400 V ± 10 %	37-45	50-60	70 ÷ 90	600	800	250	80
Q3Y/450-550	3 x 400 V ± 10 %	45-55	60-75	80 ÷ 108	600	900	250	80
Q3Y/550-750	3 x 400 V ± 10 %	55-75	75-100	105 ÷ 138	600p	1300p	300p	109
Q3Y/750-900	3 x 400 V ± 10 %	75-90	100-125	138 ÷ 185	600p	1300p	300p	109
Q3Y/900-1100	3 x 400 V ± 10 %	90-110	125-150	175 ÷ 210	600p	1500p	300p	120
Q3Y/1100-1320	3 x 400 V ± 10 %	110-132	150-180	210 ÷ 260	800p	1700p	400p	130
Q3Y/1320-1600	3 x 400 V ± 10 %	132-160	180-218	250 ÷ 305	800p	1700p	400p	130
Q3Y/1600-2000	3 x 400 V ± 10 %	160-200	218-273	290 ÷ 400	800p	1900p	400p	140
Q3Y/2000-2500	3 x 400 V ± 10 %	200-250	273-340	400 ÷ 460	1000p	1900p	400p	180
Q3Y/2500-3150	3 x 400 V ± 10 %	250-315	340-430	450 ÷ 580	1000p	1900p	400p	180

Dimensions note : P indicates floor mounted control panel.

CB-Q3Y-en_c_te

Three-phase Electric Panel

Q3I Series

APPLICATIONS

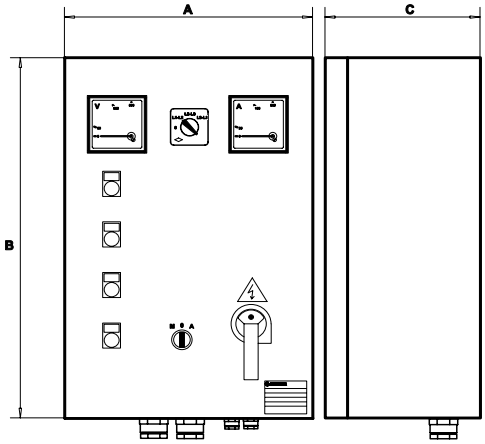
- Protection and control of a three-phase surface or submersible electric pump.

SPECIFICATIONS

- Manual control through an Auto/Man selector switch.
- Automatic control through an external enable contact.
- Supply voltage: 3 x 400 V ±10%.
- Frequency: 50/60 Hz.
- 24 V AC low voltage auxiliary circuit.
- Power: 4 to 315 kW.
- Impedance start.
- Short-circuit and overload protection.
- Protection class: IP54.
- Ambient temperature: -5 to +40 °C (according to EN 60439-1).
- Maximum relative humidity: 50% at +40°C, provided that no condensation occurs (according to EN 60439-1).
- Wall mounted.
- Metal enclosure.
- Power, pump running, thermal overload and dry running indicator lights.
- Ready for installation of dry running control float or pressure switch (to be ordered separately). Can be equipped with electronic protection module with electrodes.

OPTIONAL ACCESSORIES

- KSL series 24 V level kit. Probe module for protection against dry running (set of three electrodes included in the supply).
- Float.
- Pressure switch.
- VR3/SCA3 three-phase module for overvoltage protection (lightning protector).



MODEL	RATED VOLTAGE	RATED POWER		RATED CURRENT	DIMENSIONS			WEIGHT
					A	B	C	
	V	kW	HP	A	mm	mm	mm	Kg
Q3I/40-75	3 x 400 V ± 10 %	4-7,5	5,5-10	10 ÷ 16	400	600	250	35
Q3I/75-92	3 x 400 V ± 10 %	7,5-9,2	10-12,5	16 ÷ 20	400	600	250	35
Q3I/92-110	3 x 400 V ± 10 %	9,2-11	12,5-15	20 ÷ 25	400	600	250	35
Q3I/110-150	3 x 400 V ± 10 %	11-15	15-20	22 ÷ 32	500	700	250	50
Q3I/150-185	3 x 400 V ± 10 %	15-18,5	20-25	28 ÷ 40	500	700	250	50
Q3I/185-220	3 x 400 V ± 10 %	18,5-22	25-30	36 ÷ 50	500	700	250	50
Q3I/220-300	3 x 400 V ± 10 %	22-30	30-40	45 ÷ 63	500	700	250	65
Q3I/300-370	3 x 400 V ± 10 %	30-37	40-50	57 ÷ 75	500	700	250	65
Q3I/370-450	3 x 400 V ± 10 %	37-45	50-60	70 ÷ 90	600	900	250	65
Q3I/450-550	3 x 400 V ± 10 %	45-55	60-75	80 ÷ 108	600p	1300p	300p	100
Q3I/550-750	3 x 400 V ± 10 %	55-75	75-100	105 ÷ 138	600p	1300p	300p	100
Q3I/750-900	3 x 400 V ± 10 %	75-90	100-125	138 ÷ 185	600p	1500p	300p	100
Q3I/900-1100	3 x 400 V ± 10 %	90-110	125-150	175 ÷ 210	800p	1700p	400p	100
Q3I/1100-1320	3 x 400 V ± 10 %	110-132	150-180	210 ÷ 260	800p	1700p	400p	150
Q3I/1320-1600	3 x 400 V ± 10 %	132-160	180-218	250 ÷ 305	800p	1700p	400p	150
Q3I/1600-2000	3 x 400 V ± 10 %	160-200	218-273	290 ÷ 400	800p	1900p	400p	160
Q3I/2000-2500	3 x 400 V ± 10 %	200-250	273-340	400 ÷ 460	1000p	1900p	400p	180
Q3I/2500-3150	3 x 400 V ± 10 %	250-315	340-430	450 ÷ 580	1000p	1900p	400p	200

Dimensions note : P indicates floor mounted control panel.

CB-Q3I-en_c_te

Three-phase Electric Panel

Q3A Series

APPLICATIONS

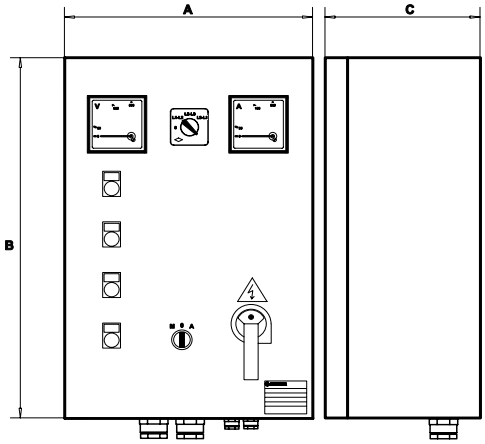
- Protection and control of a three-phase surface or submersible electric pump.

SPECIFICATIONS

- Manual control through an Auto/Man selector switch.
- Automatic control through an external enable contact.
- Supply voltage: 3 x 400 V ±10%.
- Frequency: 50/60 Hz.
- 24 V AC low voltage auxiliary circuit.
- Power: 4 to 315 kW.
- Starting autotransformer.
- Short-circuit and overload protection.
- Protection class: IP54.
- Ambient temperature: -5 to +40 °C (according to EN 60439-1).
- Maximum relative humidity: 50% at +40°C, provided that no condensation occurs (according to EN 60439-1).
- Wall mounted.
- Metal enclosure.
- Power, pump running, thermal overload and dry running indicator lights.
- Ready for installation of dry running control float or pressure switch (to be ordered separately). Can be equipped with electronic protection module with electrodes.

OPTIONAL ACCESSORIES

- KSL series 24 V level kit. Probe module for protection against dry running (set of three electrodes included in the supply).
- Float.
- Pressure switch.
- VR3/SCA3 three-phase module for overvoltage protection (lightning protector).



MODEL	RATED VOLTAGE	RATED POWER		RATED CURRENT	DIMENSIONS			WEIGHT
					A	B	C	
	V	kW	HP	A	mm	mm	mm	Kg
Q3A/40-75	3 x 400 V ± 10 %	4-7,5	5,5-10	10 ÷ 16	500	700	250	50
Q3A/75-92	3 x 400 V ± 10 %	7,5-9,2	10-12,5	16 ÷ 20	500	700	250	50
Q3A/92-110	3 x 400 V ± 10 %	9,2-11	12,5-15	20 ÷ 25	500	700	250	50
Q3A/110-150	3 x 400 V ± 10 %	11-15	15-20	22 ÷ 32	500	700	250	50
Q3A/150-185	3 x 400 V ± 10 %	15-18,5	20-25	28 ÷ 40	500	700	250	50
Q3A/185-220	3 x 400 V ± 10 %	18,5-22	25-30	36 ÷ 50	500	700	250	50
Q3A/220-300	3 x 400 V ± 10 %	22-30	30-40	45 ÷ 63	600	900	300	80
Q3A/300-370	3 x 400 V ± 10 %	30-37	40-50	57 ÷ 75	600	900	300	80
Q3A/370-450	3 x 400 V ± 10 %	37-45	50-60	70 ÷ 90	600p	1300p	300p	90
Q3A/450-550	3 x 400 V ± 10 %	45-55	60-75	80 ÷ 108	600p	1500p	300p	120
Q3A/550-750	3 x 400 V ± 10 %	55-75	75-100	105 ÷ 138	600p	1500p	300p	120
Q3A/750-900	3 x 400 V ± 10 %	75-90	100-125	138 ÷ 185	600p	1700p	400p	150
Q3A/900-1100	3 x 400 V ± 10 %	90-110	125-150	175 ÷ 210	800p	1900p	400p	150
Q3A/1100-1320	3 x 400 V ± 10 %	110-132	150-180	210 ÷ 260	800p	1900p	400p	200
Q3A/1320-1600	3 x 400 V ± 10 %	132-160	180-218	250 ÷ 305	800p	1900p	400p	200
Q3A/1600-2000	3 x 400 V ± 10 %	160-200	218-273	290 ÷ 400	800p	1900p	400p	230
Q3A/2000-2500	3 x 400 V ± 10 %	200-250	273-340	400 ÷ 460	1000p	1900p	400p	230
Q3A/2500-3150	3 x 400 V ± 10 %	250-315	340-430	450 ÷ 580	1000p	1900p	400p	250

Dimensions note : P indicates floor mounted control panel.

CB-Q3A-en_c_te

Three-phase Electric Panel

Q3SF Series

APPLICATIONS

- Protection and control of a three-phase surface or submersible electric pump.

SPECIFICATIONS

- Manual control through an Auto/Man selector switch.
- Automatic control through an external enable contact.
- Supply voltage: 3 x 400 V ±10%.
- Frequency: 50/60 Hz.
- 24 V AC low voltage auxiliary circuit.
- Power: 5,5 to 110 kW.
- Softstart with torque control.
- Protection class: IP54.
- Ambient temperature: -5 to +40 °C
- Maximum relative humidity: 50% at +40°C, provided that no condensation occurs (according to EN 60439-1).
- Wall mounted.
- Metal enclosure.
- Dry running indicator light.
- Power - pump running - malfunction LEDs on starter keypanel.
- ON/OFF selector switch for activation of by-pass contactor.
- Ready for installation of dry running control float or pressure switch (to be ordered separately). Can be equipped with electronic protection module with electrodes.

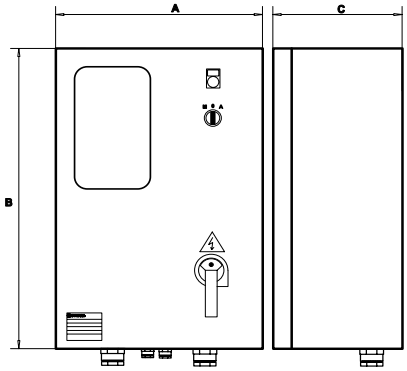
Protections against phase failure / phase sequence / frequency out of limits on power supply line.
Low-voltage protection on auxiliary circuits.
Protection against starter overtemperature / overload / malfunction.
Protection against overload / locked rotor / current asymmetry on motor side.
Short-circuit protection on inputs and outputs.
RS232 interface for remote control and RS485 for use of remote keypanel.
Incorporated by-pass contactor.

OPTIONAL ACCESSORIES

- KSL series 24 V level kit. Probe module for protection against dry running (set of three electrodes included in the supply).
- Float.
- Pressure switch.
- VR3/SCA3 three-phase module for overvoltage protection (lightning protector).

STATIC STARTER CHARACTERISTICS

- Static starter for gradual start-up/ shutdown, featuring: keypanel with liquid crystal display showing voltage, absorbed current, cos φ, operating hours, number of starts, last twenty messages on system status (events / alarms).



MODEL	RATED VOLTAGE	RATED POWER		RATED CURRENT	DIMENSIONS A	B	C	WEIGHT
	V	kW	HP	A	mm	mm	mm	Kg
Q3SF 75	3 x 400 V ± 10 %	5,5 - 7,5	7,5 -10	8,5 ÷ 17	400	600	250	35
Q3SF 150	3 x 400 V ± 10 %	9,2 - 15	12,5 - 20	15 ÷ 30	500	700	250	40
Q3SF 220	3 x 400 V ± 10 %	18,5 - 22	25 - 30	28 ÷ 45	500	700	250	40
Q3SF 300	3 x 400 V ± 10 %	30	40	42 ÷ 60	600	900	300	90
Q3SF 370	3 x 400 V ± 10 %	37	50	55 ÷ 75	600	900	300	90
Q3SF 450	3 x 400 V ± 10 %	45	60	70 ÷ 85	600	900	300	90
Q3SF 550	3 x 400 V ± 10 %	55	75	80 ÷ 110	600	900	300	90
Q3SF 590	3 x 400 V ± 10 %	59	80	105 ÷ 125	600	900	300	90
Q3SF 750	3 x 400 V ± 10 %	75	100	120 ÷ 142	600p	1700p	400p	120
Q3SF 900	3 x 400 V ± 10 %	90	125	135 ÷ 190	600p	1700p	400p	120
Q3SF 1100	3 x 400 V ± 10 %	110	150	185 ÷ 245	600p	1700p	400p	120

Dimensions note : P indicates floor mounted control panel.

CB-Q3SF-en_b_te

Level Control Panel

QCL5 Series

APPLICATIONS

- Accessory for electric pump control panels, suitable for tank filling or drainage applications or for activation of audible or visual alarms.

SPECIFICATIONS

- Automatic control through probes.
- Supply voltage: 1 x 230 V ±10% or 1 x 24 V ±10%.
- Frequency: 50/60 Hz.
- Voltage to probes: 15 V AC at 0,5 mA max.
- Switch contact 48 V AC at 3 A max (250 W max).
- Protection class: IP55.
- Ambient temperature: -5 to +40 °C (according to EN 60439-1).
- Maximum relative humidity: 50% at +40°C, provided that no condensation occurs (according to EN 60439-1).
- Wall mounted.
- Plastic enclosure.
- Electrodes suitable for water at a maximum temperature of 40°C.
- Set of three electrodes included in the supply.

OPTIONAL ACCESSORIES

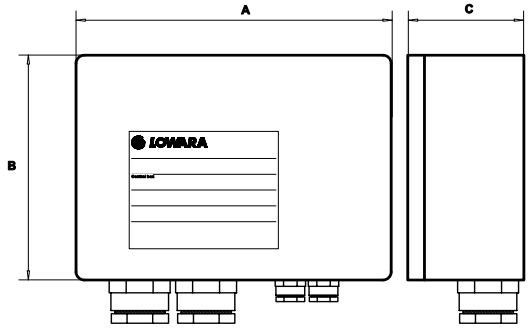
- Drop cable with circular cross section.

For connection of the electrodes to the panel we recommend the following cross sections:

LENGHT m		CABLE SECTION mm^2
0	50	0,5
50	100	0,75
100	200	1,0
200	400	2,5

CB-CASEL-en_b_te

Three-pole cables can be used for short lenghts.
Otherwise we recommend the use of unipolar cables placed at suitable distance from each other to prevent the capacitive effect of the cable from interfering with the proper operation of the electronic module.

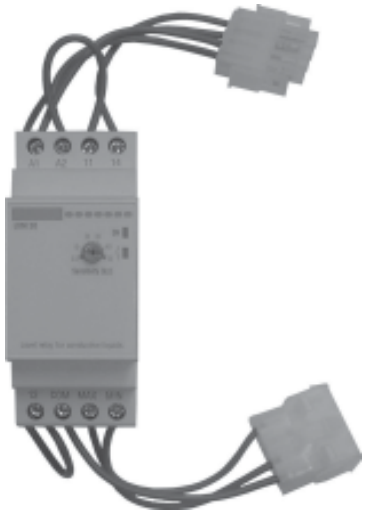


TYPE	POWER SUPPLY			CONTACT			DIMENSIONS	WEIGHT
	VOLTAGE	FREQUENCY	POWER	TYPE	RANGE		A x B x C	
	V	Hz	W		V	A	mm	Kg
QCL5/24	1 x 24	50/60	2	NO-C-NC	48	3	90 x 130 x 60	0,5
QCL5/230	1 x 230	50/60	2					

CB-QCL5-en_a_te

Kit 24 V Level Probe

KSL Series



APPLICATIONS

- Accessory for electric panels.

SPECIFICATIONS

- Electronic module for use of probes as protection against dry running.
- Supply voltage: 1 x 24 V ±10% for model SLD/24.
- Frequency: 50/60 Hz.
- Absorbed power: 3,5 VA max.
- Voltage to probes: 7,5 V AC at 0,4 mA max.
- Switch contact 24 V AC at 5 A max (250 W max).
- Designed for installation on Lowara electric panels featuring DIN bar.
- Electrodes suitable for water at a maximum temperature of 60°C.

CONSTRUCTION CHARACTERISTICS

- Module made of plastic material with DIN bar attachment.
- Cables with quick plug-in connectors.
- Set of three electrodes included in the supply.
- Electrodes with nylon 6 body, stainless steel sensitive element brass washer and nitrile rubber seal.

OPTIONAL ACCESSORIES

- Drop cable with circular cross section.

For connection of the electrodes to the panel we recommend the following cross sections:

LENGHT m		CABLE SECTION mm^2
0	50	0,5
50	100	0,75
100	200	1,0
200	400	2,5

CB-CASEL-en_b_te

Three-pole cables can be used for short lenghts.
Otherwise we recommend the use of unipolar cables placed at suitable distance from each other to prevent the capacitive effect of the cable from interfering with the proper operation of the electronic module.

TYPE	POWER SUPPLY			CONTACT			DIMENSIONS	WEIGHT	PANELS
	MAIN		POWER	TYPE	RANGE		A x B x C		
	V		VA		V~	A	mm	Kg	
KIT KSL/24	1x24	50/60 Hz	3,5	N0-C-NC	250	8	90 x 36 x 60	0,5	QSCS-QM-QTD-Q3D-Q3Y-Q3A-Q3I-Q3SF

CB-SLD-en_b_te

Lightning Protection

APPLICATIONS

- Accessory for electric panels.

DPF Series

SPECIFICATIONS

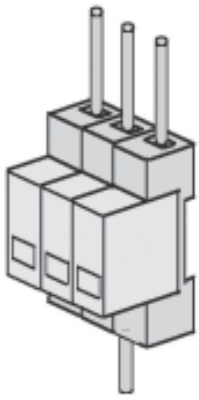
- Varistor for overvoltage protection of single-phase lines. To be connected between the phase and neutral conductor.
- Operating voltage: 460 V AC.
- Maximum varistor voltage: 750 V with 100 A peak current.

VR Series

SPECIFICATIONS

- Varistors for overvoltage protection of three-phase lines.
- To be connected between the phases (VR3 model).
- Operating voltage: 460 V AC.
- Maximum varistor voltage: 750 V with 100 A peak current.
- Designed for installation on Lowara electric panels featuring DIN bar.

SCA3 Series



SPECIFICATIONS

- Lightning arresters for overvoltage protection of three-phase lines. To be connected between the phases and the heart conductor,
- Operating voltage: 500 V AC.
- Maximum varistor voltage: 2,5 kW with 40 kA peak current.
- Designed for installation on Lowara electric panels featuring DIN bar.

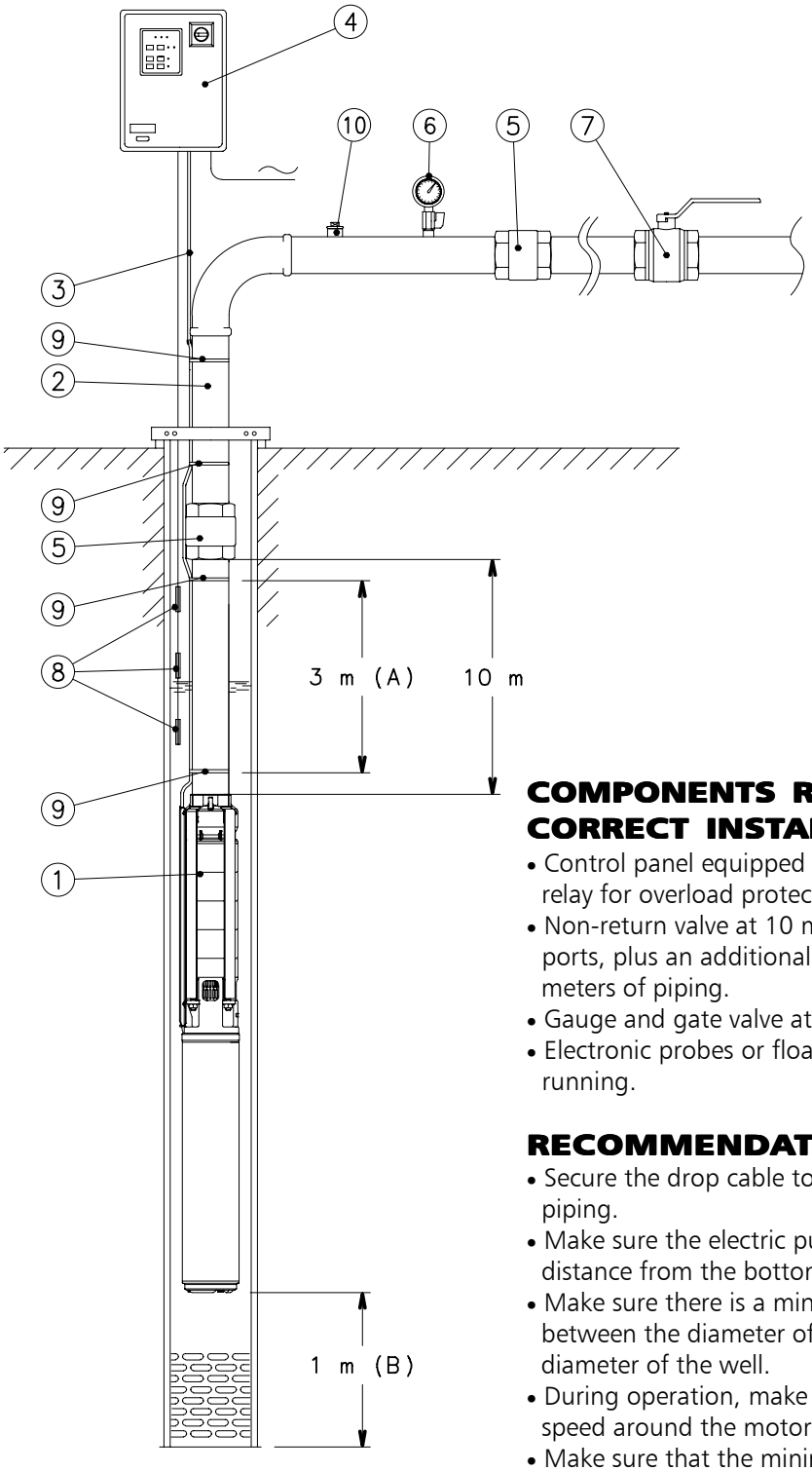
TYPE	VOLTAGE V	PANELS
DPF	1 x 220-240 50/60 Hz	QSM - QSC - QSCS - QPC
KIT VR1	1 x 220-230 50/60 Hz	QM - QDRM - QDRM2 - QDRMC - QDRMC2
KIT VR3	3 x 400 50/60 Hz	QTD - QDR - QDR2 - Q3D
KIT SCA 3	3 x 400 50/60 Hz	Q3Y-Q3A-Q3I-Q3SF-Q3D

CB-VR-en_c_te

LOWARA
a xylem brand

TECHNICAL APPENDIX

SUBMERSIBLE ELECTRIC PUMP INSTALLATION DIAGRAM



1 - Submersible electric pump.
2 - Delivery pipe.
3 - Drop cable.
4 - Control panel.
5 - Non-return valve.
6 - Gauge.
7 - On/off valve.
8 - Level sensors for protection against dry running.
9 - Cable clamp.
10 - Electric pump bleed/priming cap.

A - Distance between the clamps that secure the drop cable to the delivery pipe.
B - Distance from the bottom of the well to the electric pump.

COMPONENTS REQUIRED FOR CORRECT INSTALLATION

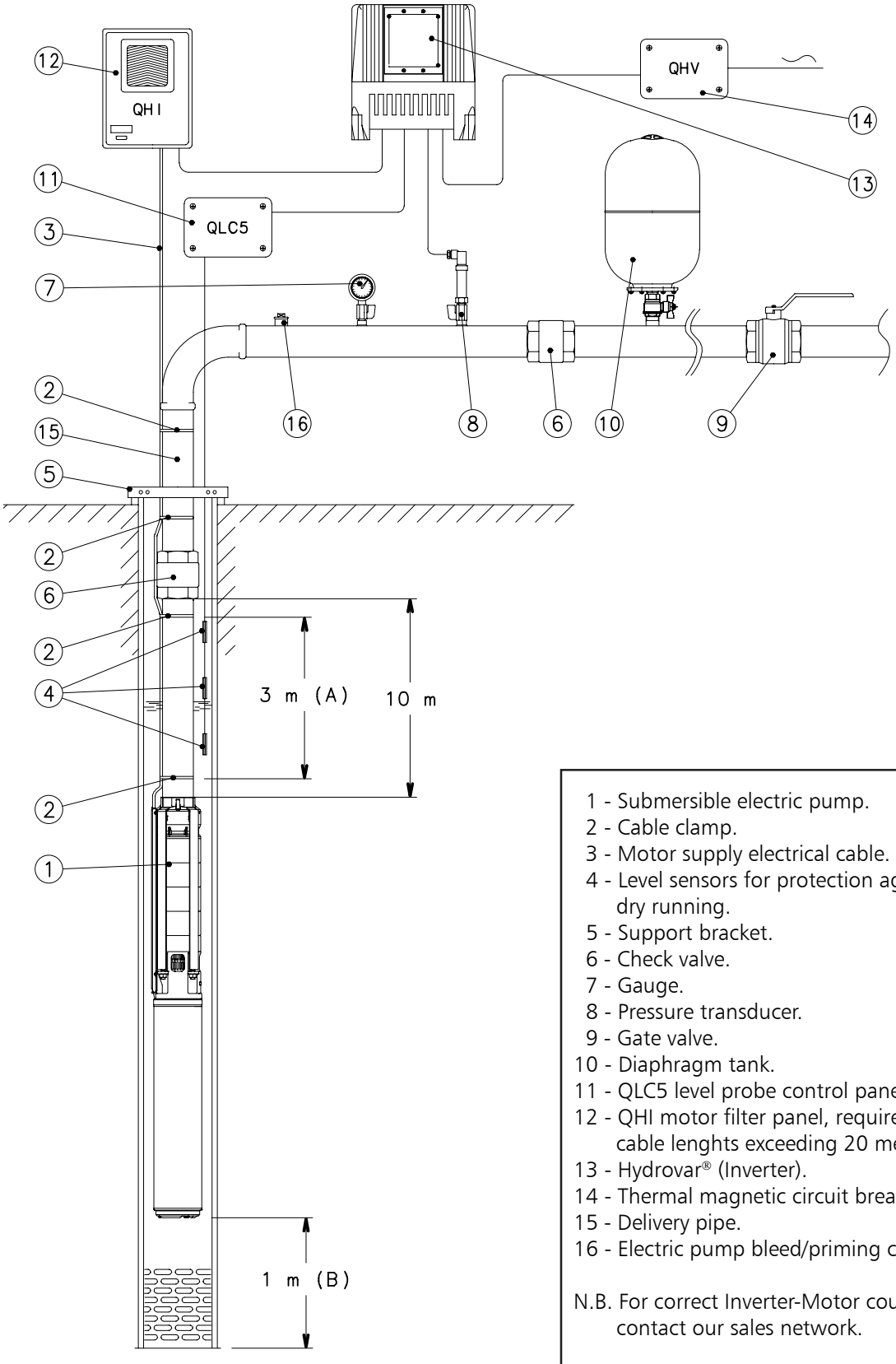
- Control panel equipped with a main switch and thermal relay for overload protection.
- Non-return valve at 10 meters' distance from the delivery ports, plus an additional non-return valve every 30÷50 meters of piping.
- Gauge and gate valve at well mouth.
- Electronic probes or floats for protection against dry running.

RECOMMENDATIONS

- Secure the drop cable to the pipe every 2÷3 meters of piping.
- Make sure the electric pump is installed at a safe distance from the bottom of the well.
- Make sure there is a minimum distance of 3 mm between the diameter of the pump and the internal diameter of the well.
- During operation, make sure that the water circulation speed around the motor is at least 8 cm/sec.
- Make sure that the minimum dynamic level of the water in the well is at least 1 m above the pump's delivery port.

01904_B_SC

EXAMPLE OF INSTALLATION OF A SUBMERSIBLE ELECTRIC PUMP CONTROLLED BY AN INVERTER (HYDROVAR®)



1 - Submersible electric pump.
2 - Cable clamp.
3 - Motor supply electrical cable.
4 - Level sensors for protection against dry running.
5 - Support bracket.
6 - Check valve.
7 - Gauge.
8 - Pressure transducer.
9 - Gate valve.
10 - Diaphragm tank.
11 - QLC5 level probe control panel.
12 - QHI motor filter panel, required for cable lenghts exceeding 20 meters.
13 - Hydrovar® (Inverter).
14 - Thermal magnetic circuit breaker (QHV).
15 - Delivery pipe.
16 - Electric pump bleed/priming cap.

N.B. For correct Inverter-Motor coupling, contact our sales network.

01905_C_SC

4OS MOTOR SERIES

TABLE OF POWER REDUCTION COEFFICIENTS WITH INCREASED WATER TEMPERATURE

MOTOR TYPE	RATED POWER	TEMPERATURE °C					
	kW	30	35	40	45	50	55
4OS	all models	1	1	0,9	0,8	0,7	0,6

4OS-derating-50-en_a_te

EXAMPLE:
A 2,2 kW 4OS motor is to be used in 50°C water.
Motor power at 50 °C = 2,2 x 0,7 = 1,54 kW

L4C MOTOR SERIES

TABLE OF POWER REDUCTION COEFFICIENTS WITH INCREASED WATER TEMPERATURE

MOTOR TYPE	RATED POWER	TEMPERATURE °C					
	kW	30	35	40	45	50	55
L4C	all models	1	1	0,95	0,9	0,85	0,8

L4c-derating-50-en_b_te

EXAMPLE:
A 2,2 kW L4C motor is to be used in 50°C water.
Motor power at 50 °C = 2,2 x 0,85 = 1,87 kW

L6C MOTOR SERIES

TABLE OF POWER REDUCTION COEFFICIENTS WITH INCREASED WATER TEMPERATURE

MOTOR TYPE	RATED POWER	TEMPERATURE °C					
	kW	35	40	45	50	55	60
L6C	all models	1	0,95	0,8	0,75	0,7	0,6

L6c-derating-50-en_b_te

EXAMPLE:
A 7,5 kW L6C motor is to be used in 45°C water.
Motor power at 50 °C = 7,5 x 0,8 = 6 kW

L6W - L8W - L10W - L12W MOTOR SERIES

TABLE OF POWER REDUCTION COEFFICIENTS WITH INCREASED WATER TEMPERATURE

MOTOR TYPE	RATED POWER	TEMPERATURE °C							
	kW	25	30	35	40	45	50	55	60
STD	all models	1	1	0,75	-	-	-	-	-
HT	all models	1	1	1	1	1	0,85	0,75	0,65

(1) Standard winding for water temperature up to 35 °C.

(2) Special winding for water temperature from 35 °C to 60 °C.

Lw-derating-en_a_te

EXAMPLE:
A 15 kW L6W motor is to be used in 35°C water.
Motor power at 35 °C = 15 x 0,75 = 11,25 kW

SELECTING CABLE CROSS-SECTIONS FOR SUBMERSIBLE MOTORS

To select the cross-section of power cables for submersible pumps, consult the tables shown below. In these tables, the maximum lenghts of the power cable for each cross-section are shown for each motor and next to the various input voltage ratings.
Therefore, to find the required cable cross-section, simply read off the maximum permitted lenghts for each cross-section next to the selected motor and required input voltage.

E.g.:
A 100 m long power cable must be matched with a 230V L4C07M236 motor.
To determine the cross-section of the cable, simply move along the row of the 230V motor until you find the maximum lenght of 100 m or immediately above it and then read off the corresponding cross-section in that column.
In this case, the 4 mm^2 cable is selected.

N.B.: the tables include specific data (current and power factor) for each motor and voltage rating based on a maximum voltage drop of 4% (HD 384.5), a maximum cable temperature of 90°C, water installation similar to air installation at a temperature of 30°C.

CABLE TYPES

	THREE CORE FLAT					FOUR CORE FLAT					SINGLE CORE ROUND			FOUR CORE ROUND		
SECTION mm^2	Hmin mm	Lmin mm	Hmax mm	Lmax mm	Weight kg/km	Hmin mm	Lmin mm	Hmax mm	Lmax mm	Weight kg/km	Dmin mm	Dmax mm	Weight kg/km	Dmin mm	Dmax mm	Weight kg/km
4	8	19,2	9	20,8	250	8	25,2	9	26,8	395	6,5	7,5	92	14	16,1	360
6	8	19,2	9	20,8	325	8	25,2	9	26,8	470	7,4	8	118	15,7	18	475
10	8	19,2	9	20,8	535	8	25,2	9	26,8	710	8,6	10	183	20,9	23,9	836
16	-	-	-	-	-	-	-	-	-	-	9,6	11	251	23,8	27,1	1145
25	-	-	-	-	-	-	-	-	-	-	11	13	362	28,9	32,9	1716
35	-	-	-	-	-	-	-	-	-	-	12,5	14,5	497	-	-	-
50	-	-	-	-	-	-	-	-	-	-	15	17	669	-	-	-
70	-	-	-	-	-	-	-	-	-	-	17,5	19,5	901	-	-	-
95	-	-	-	-	-	-	-	-	-	-	20,5	22,5	1141	-	-	-
120	-	-	-	-	-	-	-	-	-	-	22	24,4	1435	-	-	-
150	-	-	-	-	-	-	-	-	-	-	25,2	28,3	1795	-	-	-
185	-	-	-	-	-	-	-	-	-	-	27,6	31	2156	-	-	-
240	-	-	-	-	-	-	-	-	-	-	30,6	34,5	2760	-	-	-

L-cavi-en_a_td

4OS SINGLE-PHASE, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES, DOL (DIRECT ON LINE) STARTING

MOTOR TYPE SINGLE-PHASE	RATED POWER Kw	RATED POWER HP	RATED VOLTAGE V	Cos φ	CURRENT AT S.F. A	VOLTAGE DROP %	Cable cross section: 4G x …mm²							
							mm²	1,5	2,5	4	6	10	16	25	35
							A max	23	32	42	54	75	100	127	158
							Maximum lenght in metres								
4OS03M236	0,37	0,5	220	0,99	4,50	4		71	118	191	286				
			230	0,98	4,42										
4OS05M236	0,55	0,8	220	0,99	6,23			51	85	137	206	356			
			230	0,97	6,00										
4OS07M236	0,75	1	220	0,97	7,41			43	73	117	176	304			
			230	0,94	7,36										
4OS11M236	1,1	1,5	220	0,99	9,34			33	56	91	137	237	373		
			230	0,99	9,05										
4OS15M236	1,5	2	220	0,99	12,2			25	42	69	104	181	285	441	
			230	0,97	11,9										
4OS22M236	2,2	3	220	0,93	17,1			17	31	51	78	135	212	324	
			230	0,90	17,1										
4OS03M116	0,37	0,5	110	0,99	9,02			17	29	47	71	123	193	299	418
			115	0,98	8,86										
4OS05M116	0,55	0,75	110	0,98	12,3			12	21	35	52	91	143	220	307
			115	0,94	12,3										
4OS07M116	0,75	1	110	0,98	14,5			10	18	29	44	76	120	186	259
			115	0,95	14,3										
4OS11M116	1,1	1,5	110	0,99	18,1			8	14	23	35	60	96	148	208
			115	0,98	17,7										

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

4osm-b_cavi-60_d_te

4OS THREE-PHASE, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES, DOL (DIRECT ON LINE) STARTING

MOTOR TYPE	RATED POWER		RATED VOLTAGE	Cos φ	CURRENT AT S.F.	VOLTAGE DROP	Cable cross section: 4G x …mm²								
							mm²	1,5	2,5	4	6	10	16	25	35
							A max	23	32	42	54	75	100	127	158
THREE-PHASE	Kw	HP	V		A	%	Maximum lenght in metres								
4OS03T236	0,37	0,5	220	0,62	3,17			184	305						
			230	0,56	3,31										
4OS05T236	0,55	0,75	220	0,71	4,00			127	212	339					
			230	0,65	4,05										
4OS07T236	0,75	1	220	0,66	5,21			104	174	279	414				
			230	0,59	5,51										
4OS11T236	1,1	1,5	220	0,72	6,53			76	127	204	304				
			230	0,65	6,70										
4OS15T236	1,5	2	220	0,71	8,40			59	99	160	239	407			
			230	0,65	8,73										
4OS22T236	2,2	3	220	0,71	11,6			41	71	115	172	294	454		
			230	0,64	12,5										
4OS30T236	3	4	220	0,79	14,5			29	50	82	124	213	331		
			230	0,72	14,8										
4OS40T236	4	5,5	220	0,85	17,7	4		21	37	62	94	163	254	386	
			230	0,81	17,4										
4OS55T236	5,5	7,5	220	0,86	24,4			-	33	52	78	133	206	312	428
			230	0,83	23,8										
4OS75T236	7,5	10	220	0,75	36,8			-	-	29	47	84	133	201	276
			230	0,68	38,1										
4OS03T386	0,37	0,5	380	0,62	1,83			552							
4OS05T386	0,55	0,75	380	0,71	2,31			382							
4OS07T386	0,75	1	380	0,66	3,01			315	522						
4OS11T386	1,1	1,5	380	0,72	3,77			230	383						
4OS15T386	1,5	2	380	0,71	4,85			180	301	482					
4OS22T386	2,2	3	380	0,71	6,69			129	217	349	519				
4OS30T386	3	4	380	0,79	8,35			92	156	251	376				
4OS40T386	4	5,5	380	0,85	10,2			69	118	191	287	492			
4OS55T386	5,5	7,5	380	0,86	14,1			47	82	135	203	351			
4OS75T386	7,5	10	380	0,75	21,2			32	59	99	150	261	406		

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

4ost-b_cavi-60_c_te

LOWARA
a xylem brand

L4C SINGLE-PHASE, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES, DOL (DIRECT ON LINE) STARTING

MOTOR TYPE	RATED POWER		RATED VOLTAGE	Cos φ	CURRENT AT S.F.	VOLTAGE DROP	Cable cross section: 4G x ...mm²							
							mm²	1,5	2,5	4	6	10	16	25	35
							A max	23	32	42	54	75	100	127	158
SINGLE-PHASE	Kw	HP	V		A	%	Maximum lenght in metres								
L4C03M236	0,37	0,5	220	0,93	5,3	4		63	106	171	256	440			
			230	0,89	5,5										
L4C05M236	0,55	0,75	220	0,89	7,0			49,6	83,4	135	202	346			
			230	0,84	7,4										
L4C07M236	0,75	1	220	0,93	8,5			40	68	110	165	284	443		
			230	0,89	8,9										
L4C11M236	1,1	1,5	220	0,88	12,2			27,5	47,2	77	116	199	312		
			230	0,84	12,7										
L4C15M236	1,5	2	220	0,98	13,1			23	39	65	98	170	267	412	
			230	0,97	12,8										
L4C22M236	2,2	3	220	0,96	17,6			16,3	29	48,1	73,2	127	201	309	
			230	0,96	17,1										
L4C40M236	4,0	5,5	220	0,93	30,7			-	15	26	41	73	116	179	249
			230	0,92	29,7										
L4C03M116	0,37	0,5	110	0,93	10,6			15,2	26	42,3	63,6	110	172	262	364
			115	0,89	11,0										
L4C05M116	0,55	0,75	110	0,89	14,0			12	20	33	50	86	134	205	282
			115	0,84	14,8										
L4C07M116	0,75	1	110	0,93	17,0			9,03	16,1	26,6	40,5	70,2	110	168	232
			115	0,89	17,8										

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l4cm-cavi-60-en_b_te

L4C THREE-PHASE, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES, DOL (DIRECT ON LINE) STARTING

MOTOR TYPE	RATED POWER		RATED VOLTAGE	Cos φ	CURRENT AT S.F.	VOLTAGE DROP	Cable cross section: 4G x ...mm²							
							mm²	1,5	2,5	4	6	10	16	25	35
							A max	23	32	42	54	75	100	127	158
THREE-PHASE	Kw	HP	V		A	%	Maximum lenght in metres								
L4C03T236	0,37	0,5	220	0,78	3,5	4		131	218						
			230	0,76	3,8										
L4C05T236	0,55	0,75	220	0,82	4,6			95,8	160	257					
			230	0,77	4,8										
L4C07T236	0,75	1	220	0,74	5,3			92,9	155	249	371				
			230	0,72	5,6										
L4C11T236	1,1	1,5	220	0,75	7,5			63	106	171	255				
			230	0,72	7,8										
L4C15T236	1,5	2	220	0,71	9,4			52,2	88,4	143	213	363			
			230	0,68	9,8										
L4C22T236	2,2	3	220	0,77	11,5			39,5	67,7	110	165	282	438		
			230	0,75	12										
L4C30T236	3	4	220	0,73	16,5			27,4	48,4	79,8	121	207	321		
			230	0,7	17,3										
L4C40T236	4	5,5	220	0,8	18,8			20,6	36,9	61,3	93,2	161	252	380	
			230	0,78	19,2										
L4C55T236	5,5	7,5	220	0,8	25,4			-	25,6	43,6	67,3	118	185	280	385
			230	0,78	26										
L4C03T386	0,37	0,5	380	0,76	2,3			359							
L4C05T386	0,55	0,75	380	0,77	2,9			281							
L4C07T386	0,75	1	380	0,72	3,4			255	425						
L4C11T386	1,1	1,5	380	0,72	4,7			184	306						
L4C15T386	1,5	2	380	0,68	5,9			154	257	413					
L4C22T386	2,2	3	380	0,75	7,2			114	191	307	458				
L4C30T386	3	4	380	0,73	9,5			86,8	147	238	355				
L4C40T386	4	5,5	380	0,78	11,6			65,3	112	181	272	466			
L4C55T386	5,5	7,5	380	0,78	15,7			45,8	80,3	132	199	343			
L4C75T386	7,5	10	380	0,8	20			-	59,3	98,9	151	261	408		

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l4c-cavi-60-en_b_te

L6C, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES DOL (DIRECT ON LINE) STARTING

MOTOR TYPE	RATED POWER		RATED VOLTAGE	Cos φ	CURRENT AT S.F.	VOLTAGE DROP	Cable cross section: 4G x …mm²							
							mm²	4	6	10	16	25	35	50	70
							A max	42	54	75	100	127	158	192	246
THREE-PHASE	Kw	HP	V		A	%	Maximum lenght in metres								
L6C40T236	4	5,5	230	0,80	19,0	4		63	96	167	260	393	539		
L6C40T386			380	0,80	11,5			179	268	460					
L6C40T405			460	0,80	9,5			264	394						
L6C55T236	5,5	7,5	230	0,80	26,6			43	67	117	184	279	384	527	
L6C55T386			380	0,80	16,1			125	189	327	509				
L6C55T405			460	0,80	13,1			189	284	488	758				
L6C75T236	7,5	10	230	0,81	33,0			33	52	92	146	222	306	421	
L6C75T386			380	0,81	20,0			98	149	258	404				
L6C75T405			460	0,81	16,5			146	221	381	594				
L6C93T236	9,3	12,5	230	0,80	41,2			25	40	73	116	178	245	338	457
L6C93T386			380	0,80	25,0			77	118	207	325	492			
L6C93T405			460	0,80	20,6			116	177	307	479				
L6C110T236	11	15	230	0,82	46,6			-	33	62	99	153	212	294	399
L6C110T386			380	0,82	28,2			-	101	178	281	427			
L6C110T405			460	0,82	23,3			-	151	264	414				
L6C150T236	15	20	230	0,83	61,6			-	-	43	72	112	157	219	299
L6C150T386			380	0,83	37,3			-	72	130	207	317	438		
L6C150T405			460	0,83	30,8			-	109	194	307	468			
L6C185T236	18,5	25	230	0,80	80,0			-	-	-	54	86	121	169	232
L6C185T386			380	0,80	48,4			-	53	99	161	248	343	474	
L6C185T405			460	0,80	40			-	83	150	240	367	506		
L6C220T236	22	30	230	0,77	99,6			-	-	-	42	68	97	137	187
L6C220T386			380	0,77	60,2			-	-	79	130	202	280	387	523
L6C220T405			460	0,77	49,8			-	65	120	195	300	414		
L6C300T386	30	40	380	0,82	75,0			-	-	55	94	150	211	296	405
L6C300T405			460	0,82	62,0			-	-	87	144	225	314	438	
L6C370T386	37	50	380	0,88	90,0			-	-	-	70	114	164	233	325
L6C370T405			460	0,88	77,0			-	-	-	104	166	237	335	463

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l6c_cavi-60-en_c_te

L6C, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES Y/Δ (STAR / DELTA) STARTING

MOTOR TYPE THREE-PHASE	RATED POWER Kw	RATED POWER HP	RATED VOLTAGE V	Cos φ	RATED CURRENT A	VOLTAGE DROP %	Cable cross section: 4G x …mm² + 3 x …mm²							
							mm²	4	6	10	16	25	35	50	70
							A max*	73	94	130	173	220	274	333	426
							Maximum lenght in metres								
L6C40T236	4	5,5	230	0,80	19,0	4		114	170	292	453				
L6C40T386			380	0,80	11,5			314	468						
L6C40T405			460	0,80	9,5			460							
L6C55T236	5,5	7,5	230	0,80	26,6			80	120	207	323	487			
L6C55T386			380	0,80	16,1			223	333						
L6C55T405			460	0,80	13,1			333	497						
L6C75T236	7,5	10	230	0,81	33,0			62	95	164	257	388	533		
L6C75T386			380	0,81	20,0			176	264	453					
L6C75T405			460	0,81	16,5			260	389						
L6C93T236	9,3	12,5	230	0,80	41,2			49	76	132	207	313	430		
L6C93T386			380	0,80	25,0			141	212	365	568				
L6C93T405			460	0,80	20,6			209	314	538					
L6C110T236	11	15	230	0,82	46,6			42	65	113	178	271	373	514	
L6C110T386			380	0,82	28,2			121	183	316	492				
L6C110T405			460	0,82	23,3			179	270	464					
L6C150T236	15	20	230	0,83	61,6			29	46	83	132	202	278	385	522
L6C150T386			380	0,83	37,3			88	135	234	367	556			
L6C150T405			460	0,83	30,8			132	200	345	540				
L6C185T236	18,5	25	230	0,80	80,0			-	34	64	103	158	218	301	407
L6C185T386			380	0,80	48,4			67	105	184	289	439			
L6C185T405			460	0,80	40			102	156	272	426				
L6C220T236	22	30	230	0,77	99,6			-	-	50	83	128	178	246	332
L6C220T386			380	0,77	60,2			53	84	150	238	361	496		
L6C220T405			460	0,77	49,8			82	127	223	351	532			
L6C300T386	30	40	380	0,82	75,0			-	60	111	178	274	379	524	
L6C300T405			460	0,82	62,0			58	93	166	264	404	558		
L6C370T386	37	50	380	0,88	90,0			-	44	84	137	213	299	418	574
L6C370T405			460	0,88	77,0			40	66	122	197	305	425		

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l6c_cavi-SD-60_a_te

*A max is the maximum rated current of the motor

L6W, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES DOL (DIRECT ON LINE) STARTING

MOTOR TYPE THREE-PHASE	RATED POWER Kw	RATED POWER HP	RATED VOLTAGE V	Cos φ AT S.F.	CURRENT AT S.F. A	VOLTAGE DROP %	Cable cross section: 4G x …mm² mm2	4	6	10	16	25	35	50	70
							A max	42	54	75	100	127	158	192	246
							Maximum lenght in metres								
L6W40T236	4	5,5	230	0,83	19,0	4		61	93	161	252	382	525		
L6W40T386			380	0,87	11,2			170	255	438					
L6W40T405			460	0,87	9,2			253	379						
L6W55T236	5,5	7,5	230	0,79	26,4			44	68	120	188	284	390		
L6W55T386			380	0,84	15,1			128	194	334	521				
L6W55T405			460	0,85	12,2			192	289	497					
L6W75T236	7,5	10	230	0,82	33,6			32	50	89	141	216	297	411	
L6W75T386			380	0,86	19,4			96	146	253	396				
L6W75T405			460	0,87	15,8			143	216	374	585				
L6W93T236	9,3	12,5	230	0,82	41,3			24	39	71	113	174	241	333	451
L6W93T386			380	0,86	23,8			76	117	204	321	489			
L6W93T405			460	0,87	19,5			114	173	301	472				
L6W110T236	11	15	230	0,83	47,9			-	32	59	95	147	205	284	386
L6W110T386			380	0,87	27,8			62	97	172	271	414			
L6W110T405			460	0,87	22,8			95	146	256	403	614			
L6W130T236	13	17,5	230	0,81	57,4			-	-	48	79	124	172	239	325
L6W130T386			380	0,85	32,9			52	82	146	232	354	490		
L6W130T405			460	0,88	26,4			80	123	217	343	524			
L6W150T236	15	20	230	0,84	62,5			-	-	42	70	109	153	214	293
L6W150T386			380	0,87	36,6			44	70	127	203	312	433		
L6W150T405			460	0,86	30,5			68	107	190	301	460			
L6W185T236	18,5	25	230	0,82	78,2			-	-	-	54	86	122	171	235
L6W185T386			380	0,86	45,1			-	55	101	164	253	351	489	
L6W185T405			460	0,87	36,7			-	85	153	245	376	522		
L6W220T236	22	30	230	0,82	91,9			-	-	-	44	71,1	102	144	198
L6W220T386			380	0,85	53,8			-	44	83	136	211	295	411	
L6W220T405			460	0,84	45,0			-	68	125	202	312	433	601	
L6W260T236	26	35	230	0,76	117			-	-	-	-	56	81	115	159
L6W260T386			380	0,81	66,5			-	-	66	110	173	243	338	461
L6W260T405			460	0,83	53,7			-	-	103	168	261	363	505	
L6W300T236	30	40	230	0,82	126			-	-	-	-	47,2	69,7	100	141
L6W300T386			380	0,86	72,6			-	-	55	94	150	212	298	410
L6W300T405			460	0,86	61,0			-	-	85	141	221	310	433	594
L6W370T386	37	50	380	0,82	95,9			-	-	-	68	112	160	226	313
L6W370T405			460	0,84	77,1			-	-	-	108	172	244	343	471

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l6w_cavi-60_b_te

L6W, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES Y/Δ (STAR / DELTA) STARTING

MOTOR TYPE THREE-PHASE	RATED POWER Kw	RATED POWER HP	RATED VOLTAGE V	Cos φ AT S.F.	CURRENT AT S.F. A	VOLTAGE DROP %	Cable cross section: 4G x …mm² + 3 x …mm²							
							mm²	4	6	10	16	25	35	50	70
							A max*	73	94	130	173	220	274	333	426
							Maximum lenght in metres								
L6W40T236	4	5,5	230	0,83	19,0	4		110	165	282	440				
L6W40T386			380	0,87	11,2			297	445						
L6W40T405			460	0,87	9,2			441							
L6W55T236	5,5	7,5	230	0,79	26,4			81	123	211	329	496			
L6W55T386			380	0,84	15,1			227	340	582					
L6W55T405			460	0,85	12,2			338	505						
L6W75T236	7,5	10	230	0,82	33,6			61	92	160	249	378	519		
L6W75T386			380	0,86	19,4			172	258	443					
L6W75T405			460	0,87	15,8			254	380						
L6W93T236	9,3	12,5	230	0,82	41,3			48	74	129	202	307	421		
L6W93T386			380	0,86	23,8			139	209	360	562				
L6W93T405			460	0,87	19,5			204	307	528					
L6W110T236	11	15	230	0,83	47,9			40	62	109	172	261	360	496	
L6W110T386			380	0,87	27,8			116	176	304	476				
L6W110T405			460	0,87	22,8			174	261	450					
L6W130T236	13	17,5	230	0,81	57,4			33	51	92	145	221	304	419	567
L6W130T386			380	0,85	32,9			99	151	261	409				
L6W130T405			460	0,88	26,4			147	222	384					
L6W150T236	15	20	230	0,84	62,5			28	45	81	128	197	272	377	512
L6W150T386			380	0,87	36,6			86	131	229	359	548			
L6W150T405			460	0,86	30,5			129	195	338	529				
L6W185T236	18,5	25	230	0,82	78,2			21	35	64	103	158	219	304	412
L6W185T386			380	0,86	45,1			68	106	186	293	447			
L6W185T405			460	0,87	36,7			104	159	276	434				
L6W220T236	22	30	230	0,82	91,9			-	28	53	86	133	185	257	350
L6W220T386			380	0,85	53,8			56	88	155	246	376	519		
L6W220T405			460	0,84	45,0			85	131	230	362	552			
L6W260T236	26	35	230	0,76	117			-	-	41	69	108	151	209	283
L6W260T386			380	0,81	66,5			44	71	128	205	313	432		
L6W260T405			460	0,83	53,7			69	109	193	305	464			
L6W300T236	30	40	230	0,82	126			-	-	35	59	94	132	185	253
L6W300T386			380	0,86	72,6			37	60	110	177	273	379	527	
L6W300T405			460	0,86	61,0			57	90	162	258	396	549		
L6W370T386	37	50	380	0,82	95,9			-	-	83	135	210	293	407	553
L6W370T405			460	0,84	77,1			-	69	127	205	316	438		

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l6w_cavi-SD-60_b_te

*A max is the maximum rated current of the motor

L8W, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES DOL (DIRECT ON LINE) STARTING

MOTOR TYPE THREE-PHASE	RATED POWER Kw	RATED POWER HP	RATED VOLTAGE V	Cos φ AT S.F.	CURRENT AT S.F. A	VOLTAGE DROP %	Cable cross section: 4G x …mm² mm2	10	16	25	35	50	70	95	120	150
							A max	75	100	127	158	192	246	298	346	399
							Maximum lenght in metres									
L8W300T386	30	40	380	0,83	78,0	4		-	89	142	201	282	387	485		
L8W300T405			460	0,83	64,4			81	136	213	299	418				
L8W370T386	37	50	380	0,83	96,1			-	68	110	158	224	310	391	478	
L8W370T405			460	0,83	79,4			-	105	168	238	335	460			
L8W450T386	45	60	380	0,85	114			-	52	87	127	182	255	324	398	
L8W450T405			460	0,85	94,3			-	82	134	193	273	379	479		
L8W520T386	52	70	380	0,83	134			-	-	-	106	154	217	276	339	442
L8W520T405			460	0,83	110			-	-	112	163	232	324	409	501	
L8W550T386	55	75	380	0,85	139			-	-	-	99	144	205	262	323	426
L8W550T405			460	0,85	115			-	-	104	152	219	306	389	478	
L8W600T386	60	80	380	0,85	149			-	-	-	90	133	189	243	301	398
L8W600T405			460	0,85	123			-	-	95	140	202	284	362	446	
L8W670T386	67	90	380	0,86	168			-	-	-	-	113	163	212	263	352
L8W670T405			460	0,86	139			-	-	-	118	173	247	316	391	516
L8W750T386	75	100	380	0,85	187			-	-	-	-	99	145	189	235	318
L8W750T405			460	0,85	154			-	-	-	104	154	220	284	351	465
L8W830T386	83	110	380	0,85	206			-	-	-	-	-	128	168	211	288
L8W830T405			460	0,85	170			-	-	-	-	135	196	254	315	421
L8W930T386	93	125	380	0,87	231			-	-	-	-	-	109	146	184	257
L8W930T405			460	0,87	191			-	-	-	-	114	169	221	277	377

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l8w_cavi-60_b_te

L8W, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES Y/Δ (STAR / DELTA) STARTING

MOTOR TYPE THREE-PHASE	RATED POWER Kw	RATED POWER HP	RATED VOLTAGE V	Cos φ AT S.F.	CURRENT AT S.F. A	VOLTAGE DROP %	Cable cross section: 4G x …mm2 + 3 x …mm2									
							mm2	4	6	10	16	25	35	50	70	95
							A max*	73	94	130	173	220	274	333	426	516
							Maximum lenght in metres									
L8W300T386	30	40	380	0,83	78,0	4		-	57	105	169	260	361	500		
L8W300T405			460	0,83	64,4			55	88	158	251	385				
L8W370T386	37	50	380	0,83	96,1			-	-	81	134	208	290	403		
L8W370T405			460	0,83	79,4			-	67	124	201	309	429			
L8W450T386	45	60	380	0,85	114			-	-	64	107	169	237	332	456	
L8W450T405			460	0,85	94,3			-	52	99	162	252	352	491		
L8W520T386	52	70	380	0,83	134			-	-	-	90	143	203	285	391	
L8W520T405			460	0,83	110			-	-	83	138	216	303	422		
L8W550T386	55	75	380	0,85	139			-	-	-	84	134	191	269	371	
L8W550T405			460	0,85	115			-	-	77	128	203	285	399		
L8W600T386	60	80	380	0,85	149			-	-	-	77	124	177	250	345	487
L8W600T405			460	0,85	123			-	-	70	118	188	265	372		
L8W670T386	67	90	380	0,86	168			-	-	-	64	106	152	217	302	430
L8W670T405			460	0,86	139			-	-	-	100	161	229	324	447	
L8W750T386	75	100	380	0,85	187			-	-	-	-	94	136	195	272	389
L8W750T405			460	0,85	154			-	-	-	89	144	206	292	403	
L8W830T386	83	110	380	0,85	206			-	-	-	-	82	121	174	244	352
L8W830T405			460	0,85	170			-	-	-	77,6	127	184	261	363	
L8W930T386	93	125	380	0,87	231			-	-	-	-	69	103	150	213	313
L8W930T405			460	0,87	191			-	-	-	-	108	158	227	318	458

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l8w_cavi-SD-60_a_te

*A max is the maximum rated current of the motor

L10W, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES DOL (DIRECT ON LINE) STARTING

MOTOR TYPE THREE-PHASE	RATED POWER Kw	RATED POWER HP	RATED VOLTAGE V	Cos φ AT S.F.	CURRENT AT S.F. A	VOLTAGE DROP %	Cable cross section: 4G x …mm²								
							mm2	50	70	95	120	150	185	240	300
							A max	192	246	298	346	399	456	538	621
							Maximum lenght in metres								
L10W930T386	93	125	380	0,86	228	4		-	112	148	187	225	262	318	365
L10W930T405			460	0,86	189			117	172	225	281	336	390	470	538
L10W1100T386	110	150	380	0,83	316			-	-	-	127	155	182	221	254
L10W1100T405			460	0,83	261			-	-	154	194	234	273	329	377
L10W1300T386	130	175	380	0,82	329			-	-	-	121	148	174	211	242
L10W1300T405			460	0,82	271			-	-	147	186	224	261	314	359
L10W1500T386	150	200	380	0,83	379			-	-	-	-	124	147	180	209
L10W1500T405			460	0,83	313			-	-	-	156	190	223	270	311

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l10w_cavi-60_b_te

L10W, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES Y/Δ (STAR / DELTA) STARTING

MOTOR TYPE THREE-PHASE	RATED POWER Kw	RATED POWER HP	RATED VOLTAGE V	Cos φ AT S.F.	CURRENT AT S.F. A	VOLTAGE DROP %	Cable cross section: 4G x …mm2 + 3 x …mm2								
							mm2	25	35	50	70	95	120	150	185
							A max*	220	274	333	426	516	599	691	790
							Maximum lenght in metres								
L10W930T386	93	125	380	0,86	228	4		-	105	153	216	277	342	405	468
L10W930T405			460	0,86	189			111	161	231	323	411	506		
L10W1100T386	110	150	380	0,83	316			-	-	104	151	195	242	288	332
L10W1100T405			460	0,83	261			-	109	161	229	293	361	426	490
L10W1300T386	130	175	380	0,82	329			-	-	99	145	188	233	276	318
L10W1300T405			460	0,82	271			-	105	154	220	282	347	409	470
L10W1500T386	150	200	380	0,83	379			-	-	-	120	158	198	236	274
L10W1500T405			460	0,83	313			-	-	127	185	239	296	352	406

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l10w_cavi-SD-60_a_te

*A max is the maximum rated current of the motor

L12W, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES DOL (DIRECT ON LINE) STARTING

MOTOR TYPE THREE-PHASE	RATED POWER Kw	RATED POWER HP	RATED VOLTAGE V	Cos φ AT S.F.	CURRENT AT S.F. A	VOLTAGE DROP %	Cable cross section: 4G x …mm² mm2	50	70	95	120	150	185	240	300
							A max	192	246	298	346	399	456	538	621
							Maximum lenght in metres								
L12W1850T386	185	250	380	0,86	445	4		-	-	-	-	-	120	151	177
L12W1850T405			460	0,86	368			-	-	-	-	155	184	228	266
L12W2200T386	220	300	380	0,85	536			-	-	-	-	-	-	120	142
L12W2200T405			460	0,85	443			-	-	-	-	-	146	183	215
L12W2600T386	260	350	380	0,85	622			-	-	-	-	-	-	-	-
L12W2600T405			460	0,85	514			-	-	-	-	-	-	153	181
L12W3000T386	300	400	380	0,88	713			-	-	-	-	-	-	-	-
L12W3000T405			460	0,88	589			-	-	-	-	-	-	-	156

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l12w_cavi-60_b_te

L12W, 60 Hz: SIZING OF ETHYLENE-PROPILENE (EPR) CABLES Y/Δ (STAR / DELTA) STARTING

MOTOR TYPE THREE-PHASE	RATED POWER Kw	RATED POWER HP	RATED VOLTAGE V	Cos φ AT S.F.	CURRENT AT S.F. A	VOLTAGE DROP %	Cable cross section: 4G x …mm2 + 3 x …mm2 mm2	50	70	95	120	150	185	240	300
							A max*	333	426	516	599	691	790	932	1076
							Maximum lenght in metres								
L12W1850T386	185	250	380	0,86	445	4		-	-	128	162	197	230	280	322
L12W1850T405			460	0,86	368			-	148	196	246	295	343	415	476
L12W2200T386	220	300	380	0,85	536			-	-	-	129	158	187	228	263
L12W2200T405			460	0,85	443			-	-	157	198	240	280	339	390
L12W2600T386	260	350	380	0,85	622			-	-	-	-	132	157	193	224
L12W2600T405			460	0,85	514			-	-	129	165	201	237	289	333
L12W3000T386	300	400	380	0,88	713			-	-	-	-	-	133	167	197
L12W3000T405			460	0,88	589			-	-	-	138	171	204	252	295

Exposed cable laid at a temperature of 30°C, maximum conductor temperature of 90°C

l12w_cavi-SD-60_a_te

*A max is the maximum rated current of the motor

SPLICE BETWEEN DROP CABLE AND MOTOR CABLE

MOTOR TYPE	POWER kW	TYPE OF SPLICE	FOUR-CORE DROP CABLE - SECTION (mm^2)															
			1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185	240	300
4OS L4C	0,37 - 7,5	Resin-filled method	GR1	GR1	GR1	GR2	GR2	GR6	GR6	GR6	GR4	GR5	GR5	-	-	-	-	-
		Heat-shrink method	GT1	GT1	GT2	GT2	GT3	GT4	GT5	GT6	-	-	-	-	-	-	-	-
		Tape method	Self-vulcanizing tape + self-vulcanizing sealing putty and PVC tape (1)															
L6C L6W	4 - 37	Resin-filled method	-	-	GR1	GR2	GR2	GR6	GR6	GR6	GR4	GR5	GR5	-	-	-	-	-
		Heat-shrink method	-	-	GT2	GT2	GT3	GT4	GT5	GT6	-	-	-	-	-	-	-	-
		Tape method	Self-vulcanizing tape + self-vulcanizing sealing putty and PVC tape (1)															

MOTOR TYPE	POWER kW	TYPE OF SPLICE	THREE-CORE DROP CABLE - SECTION (mm^2)															
			1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185	240	300
L6C L6W	4 - 37	Resin-filled method	-	-	GR1	GR1	GR2	GR2	GR6	GR6	GR6	GR4	GR5	-	-	-	-	-
		Heat-shrink method	-	-	GT2	GT2	GT3	GT4	GT5	GT6	-	-	-	-	-	-	-	-
		Tape method	Self-vulcanizing tape + PVC tape															

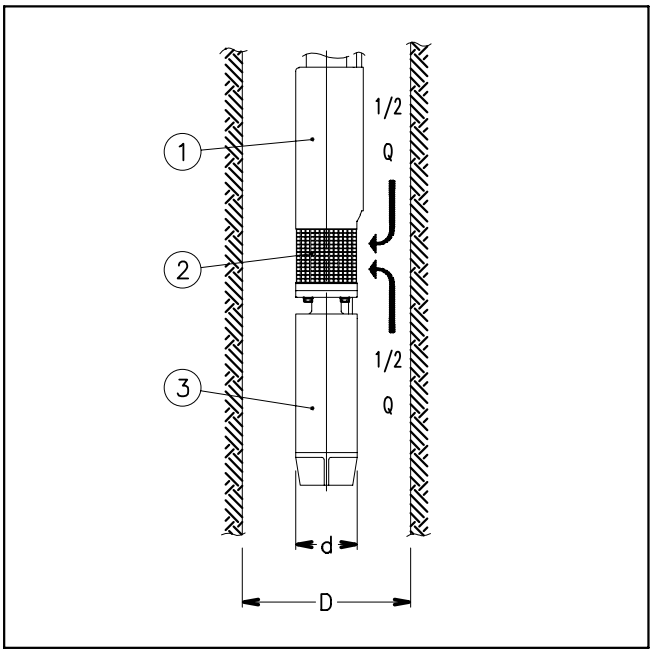
MOTOR TYPE	POWER kW	TYPE OF SPLICE	SINGLE-CORE DROP CABLE - SECTION (mm^2)															
			1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185	240	300
L8W L10W L12W	30 - 300	Resin-filled method	-	-	-	GR1	GR1	GR1	GR1	GR1	GR1	GR2	GR2	GR2	GR6	GR6	GR6	GR4
		Heat-shrink method	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Tape method	Self-vulcanizing tape + PVC tape															

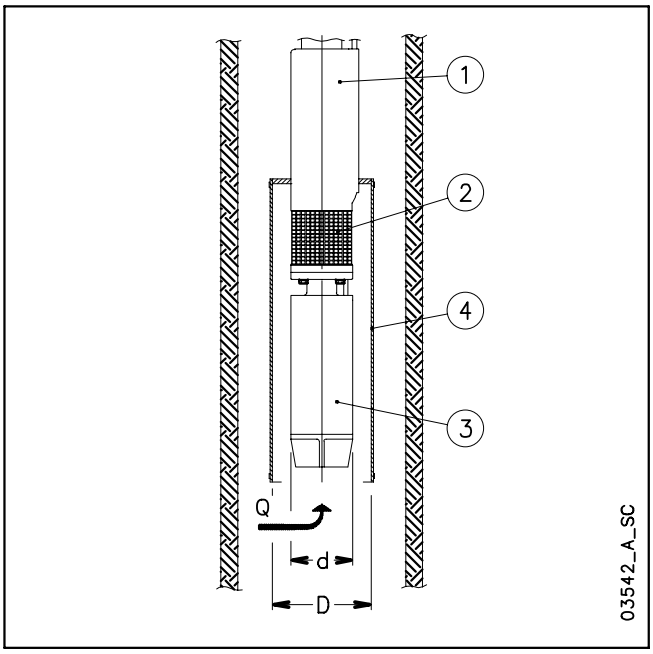
(1) Use self-vulcanizing sealing putty to fill in the gaps between the three-conductor cable and the ground cable in the area covered by the final layer of tape, to restore continuity to the protective sheath.

RESIN-FILLED SPLICES				HEAT-SHRINK SPLICES			
TYPE	L [mm]	TYPE	L [mm]	TYPE	L [mm]	TYPE	L [mm]
GR1	148 x 32	GR5	369 x 76	GT1	450	GT4	450
GR2	178 x 36	GR6	270 x 55	GT2	450	GT5	500
GR4	319 x 63			GT3	450	GT6	500

L-giunzioni-en_d_te

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:

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

Where: Q in [m³/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] corresponds to the diameter of the well;
d in [m] corresponds to 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 m³/h = 0.0055 m³/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 [m³/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_m 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 m³/h = 0.0042 m³/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.

ASYNCHRONOUS MOTOR STARTING SYSTEMS

Direct

Suitable for low-power motors.
The starting current (Is) is much higher than the rated current (In).
Starting current Is = In x 4 ÷ 8
Starting torque Ts = Tn x 2 ÷ 3

Indirect

• Star/Delta

The starting current (Is) is three times less than the direct starting current.
Starting current Is = In x 1.3 ÷ 2.7
Starting torque Ts = Tn x 0.7 ÷ 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 Un = 400 V
Starting voltage Us = Un x 0,7 = 280 V

Starting current

$$Is = In \times 4 \div 8 \times \left(\frac{Us}{Un}\right) = In \times 3 \div 6$$

Starting torque

$$Ts = Tn \times 2 \div 3 \times \left(\frac{Us}{Un}\right)^2 = Tn \times 1 \div 1{,}5$$

Autotransformer

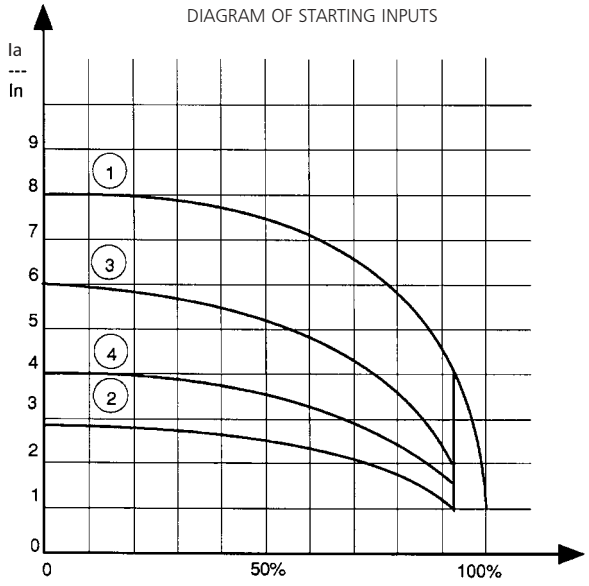
The pump is started with a voltage which is lower than the rated one.
The Lowara panels use an autotransformer with a voltage that is 70% the value of the line voltage.
The switch to the rated voltage occurs without any interruptions of the power supply.
Rated voltage Un = 400 V

Starting current

$$Is = In \times 4 \div 8 \times \left(\frac{Us}{Un}\right) = In \times 3 \div 6$$

Starting torque

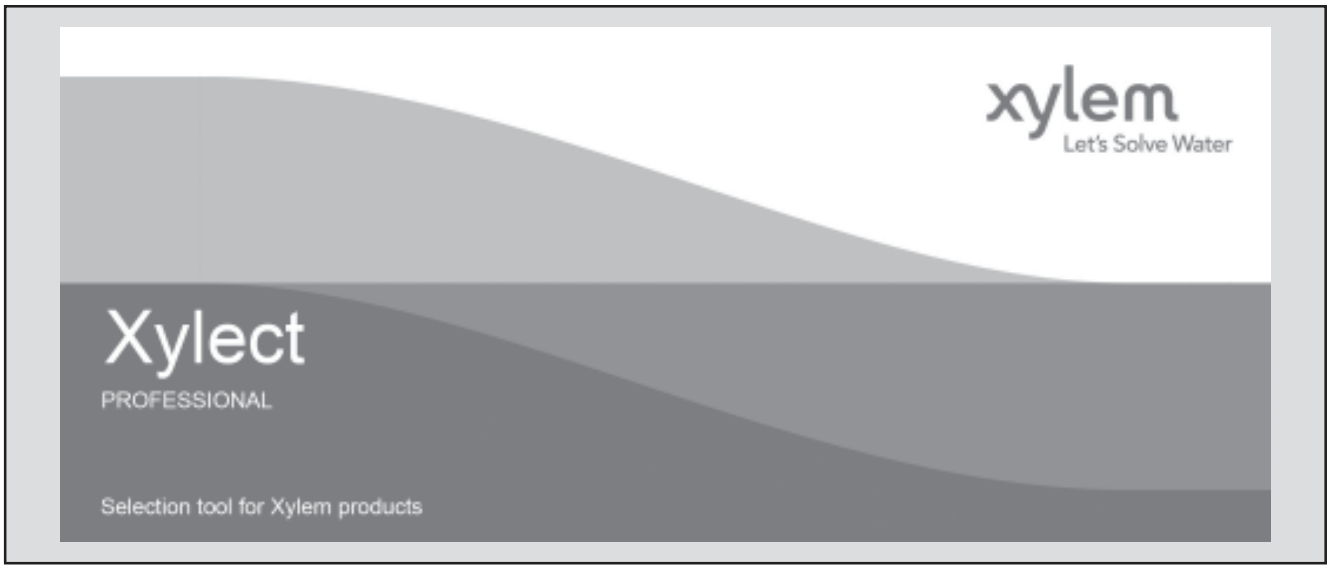
$$Ts = Tn \times 2 \div 3 \times \left(\frac{Us}{Un}\right)^2 = Tn \times 1 \div 1{,}5$$



1 = Direct
2 = Star-Delta
3 = Impedances
4 = Autotransformer

FURTHER PRODUCT SELECTION AND DOCUMENTATION

Xylect



Xylect is pump solution selection software with an extensive online database of product information across the entire Lowara, and Vogel 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.

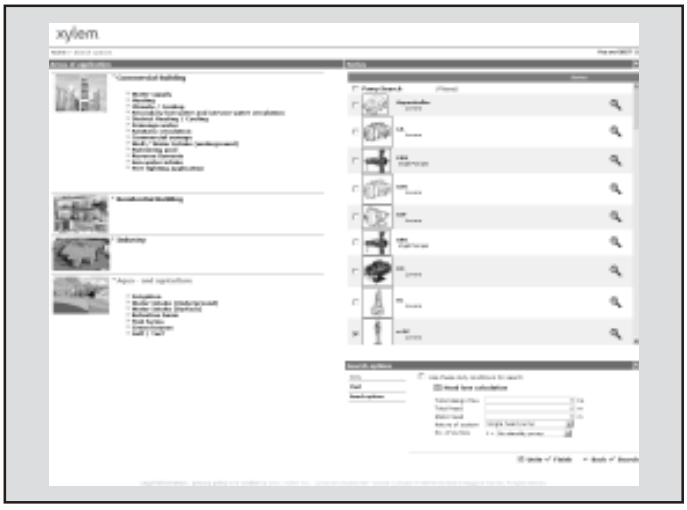
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara and Vogel products.

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

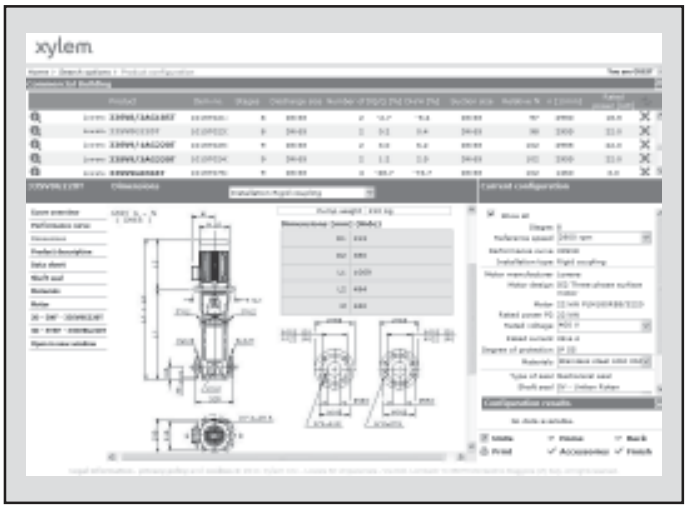
The detailed output makes it easy to select the optimal pump from the given alternatives.

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 user have a My Xylect space, where all projects are saved.

For more information about Xylect please contact our sales network or visit www.xylect.com.



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

Xylem |'zīləm|

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

We're 12,000 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. 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, backed by a legacy of innovation.

For more information on how Xylem can help you, go to xyleminc.com.

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