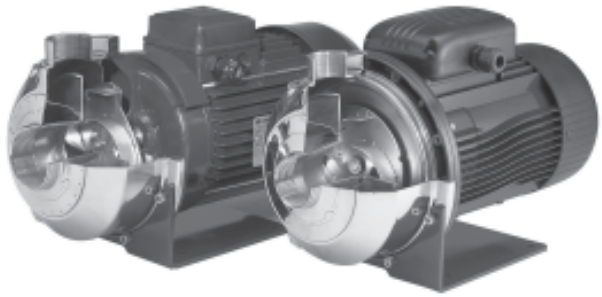
Open impeller centrifugal electric pumps and threaded connections

CO-COM Series with high efficiency PLM motors



❑ **All components in contact with pumped liquid are made of AISI 316L stainless steel**

❑ **Mechanical seal made of Silicon carbide/tungsten carbide/FPM in the "K" version**

MARKET SECTORS

CIVIL, INDUSTRIAL.

APPLICATIONS

- Washing of metal parts and/or surface treatment.
- Washing of produce in the packaging industry.
- Food industry washing equipment and syatems.
- Dyeing plant and textile industry.
- Plants for the circulation and transfer of moderately viscous liquids, with light chemical aggressiveness.
- Industrial washing machines and commercial dishwashers.

SPECIFICATIONS

PUMP

- **Delivery** up to 900 l/min (54 m^3/h).
- **Head** up to 24 m.
- **Temperature** of pumped liquid: -10°C to +120°C for standard version.
- Maximum working **pressure** : 8 bar (PN 8).
- **Suspended solids** handled up to: CO350: 11 mm. CO500: 20 mm.

MOTOR

- Asynchronous, squirrel cage rotor, enclosed construction in aluminium casing, external ventilation.
- **Protection**: IP55.
- Classe F **insulation**.
- Performances according to EN 60034-1.
- Maximum ambient **temperature**: 40°C.
- **Standard voltage**:
  - **Single-phase** version: 220-240 V 50 Hz, 2 poles with built-in automatic reset overload protection up to 1,5 kW. For higher powers the protection must be provided by the user.
  - **Three-phase** version: 220-240/380-415 V 50 Hz, 2 poles; overload protection to be provided by the user.
- Condensate drain plugs on all motors.

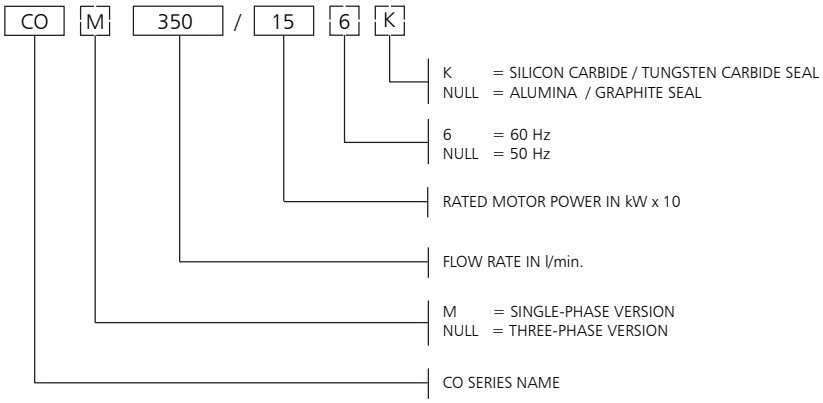
CONSTRUCTION FEATURES

- Close-coupled, single-impeller centrifugal pump with axial suction and radial delivery.
- Threaded suction and delivery ports (Rp UNI - ISO 7).
- Compact construction; adaptor for motor/pump coupling; the impeller is keyed directly to the motor shaft extension.
- Back pull-out design; no need to disconnect the pump body from the system pipes.
- **AISI 316L** stainless steel open **impeller** with four pressed vanes welded onto base disk.
- Impeller's front **wear surface** consists of a study **AISI 316L** stainless steel plate welded onto the suction port.
- **AISI 316L** stainless steel **pump body and seal housing disk**, with no diffusers or cavities for easier cleaning and maintenance.
- Pump body tightened by 8 screws allowing rotation of the discharge head.
- **Mechanical seal**: **Standard version**: **Carbon**/ **Ceramica** faces, **FPM** elastomers. The other parts are made of AISI 316L stainless steel. "**K**" **version** : faces are made of **Silicon Carbide and Tungsten Carbide**. **FPM** Elastomers. The other parts are made of AISI 316L stainless steel.
- **FPM O-Rings**.

OPTIONAL FEATURES

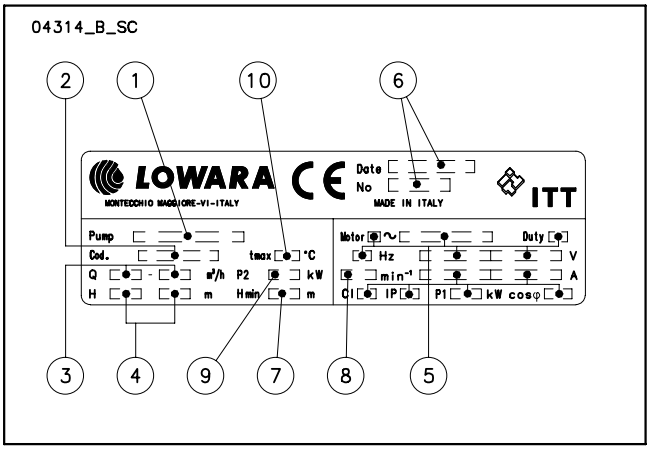
- Different voltages and frequencies.
- Different materials for the mechanical seal and O-rings.

CO - COM SERIES
IDENTIFICATION CODE



EXAMPLE : COM 350/156K
CO series electric pump, single-phase, flow rate 350 l/min,
rated power 1,5 kW, 60 Hz version, Silicon Carbide / Tungsten Carbide seal.

RATING PLATE

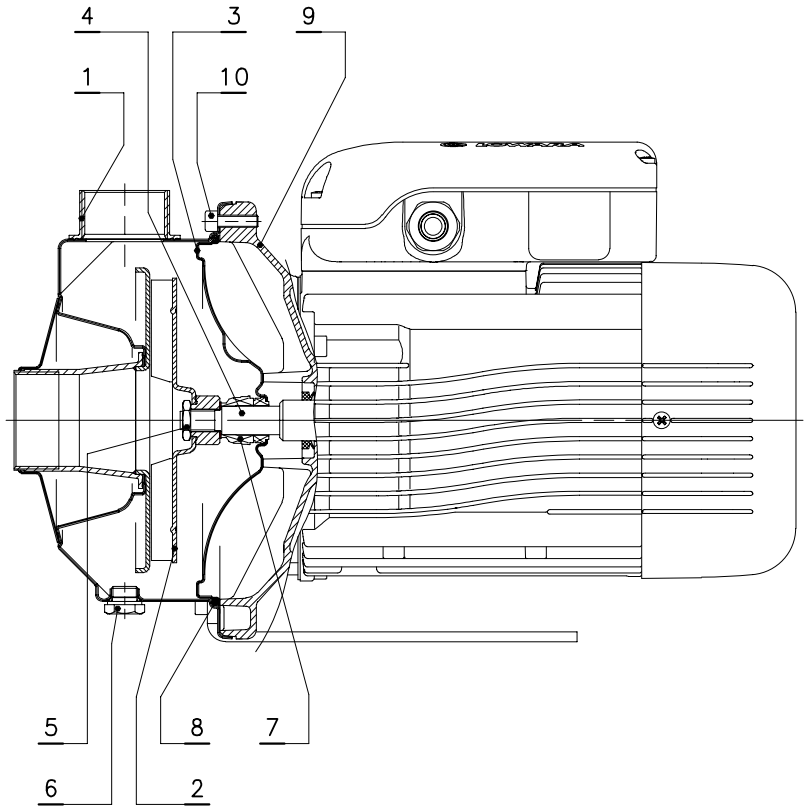


LEGEND

1 - Electric pump type
2 - Code
3 - Delivery range
4 - Head range
5 - Motor type
6 - Date of manufacture and serial number
7 - Minimum head
8 - Speed
9 - Rated output
10 - Maximum operating temperature

CO - COM SERIES
LIST OF MODELS AND TABLE OF MATERIALS

04309_A_DS



VERSIONS	
SINGLE-PHASE	**THREE-PHASE**
COM 350/03	CO 350/03
COM 350/05	CO 350/05
COM 350/07	CO 350/07
COM 350/09	CO 350/09
COM 350/11	CO 350/11
COM 350/15	CO 350/15
COM 500/15	CO 500/15
COM 500/22	CO 500/22
	CO 500/30

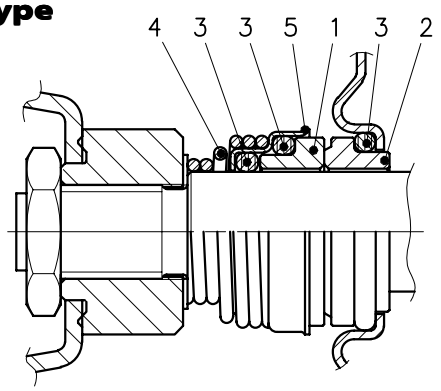
co-en_a_mo

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
3	Seal housing	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Shaft extension	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Impeller locknut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
6	Fill/drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
7	Mechanical seal	Ceramic / resin impregnated Carbon / FPM (standard version)		
8	Elastomers	FPM (standard version)		
9	Adapter	Aluminium	EN 1706-AC-AlSi11Cu2(Fe)DF	ASTM Class 25
10	Pump body fastening bolts & screws	Galvanized steel		

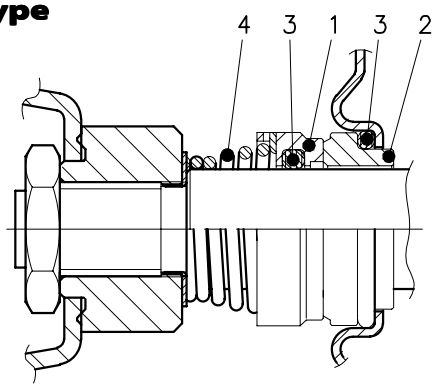
co-en_a_tm

CO - COM SERIES MECHANICAL SEAL

3K Type



2K Type



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LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
B : Resin impregnated carbon	E : EPDM	G : AISI 316
C : Special resin impregnated carbon	V : FPM	
V : Ceramic		
Q_1 : Silicon Carbide		
U_3 : Tungsten Carbide		

co_ten-mec-3-en_a_tm

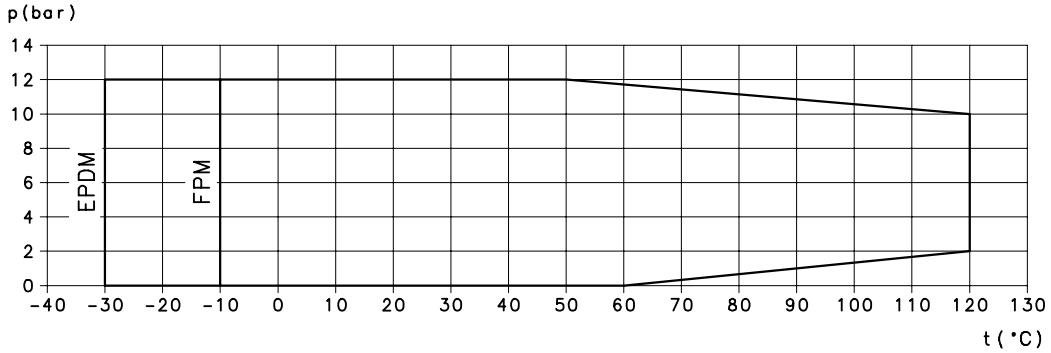
SEAL TYPES

TYPE	POSITION 1 ROTATING ASSEMBLY	POSITION 2 FIXED ASSEMBLY	POSITION 3 ELASTOMERS	POSITION 4 SPRINGS	POSITION 5 OTHER COMPONENTS	TEMPERATURE (°C)
STANDARD MECHANICAL SEAL						
3K - V B V G G	V	B	V	G	G	-10 +120
OTHER MECHANICAL SEAL TYPES						
3K - V C V G G	V	C	V	G	G	-10 +120
3K - Q_1CVGG	Q_1	C	V	G	G	-10 +120
3K - Q_1Q_1VGG	Q_1	Q_1	V	G	G	-10 +120
2K - U_3Q_1VGG	U_3	Q_1	V	G	G	-10 +120
2K - U_3U_3VGG *	U_3	U_3	V	G	G	-10 +120
3K - VBEGG	V	B	E	G	G	-30 +120
3K - VCEGG	V	C	E	G	G	-30 +120
3K - Q_1CEGG	Q_1	C	E	G	G	-30 +120
3K - Q_1Q_1EGG	Q_1	Q_1	E	G	G	-30 +120
2K - U_3Q_1EGG	U_3	Q_1	E	G	G	-30 +120
2K - U_3U_3EGG *	U_3	U_3	E	G	G	-30 +120

* Version with anti-rotation lockpin available on request.

co_tipi-ten-mec-3-en_a_tc

COMPLETE PUMP PRESSURE / TEMPERATURE OPERATING LIMITS (WITH ANY OF THE SEALS LISTED ABOVE)



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CO - COM SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES

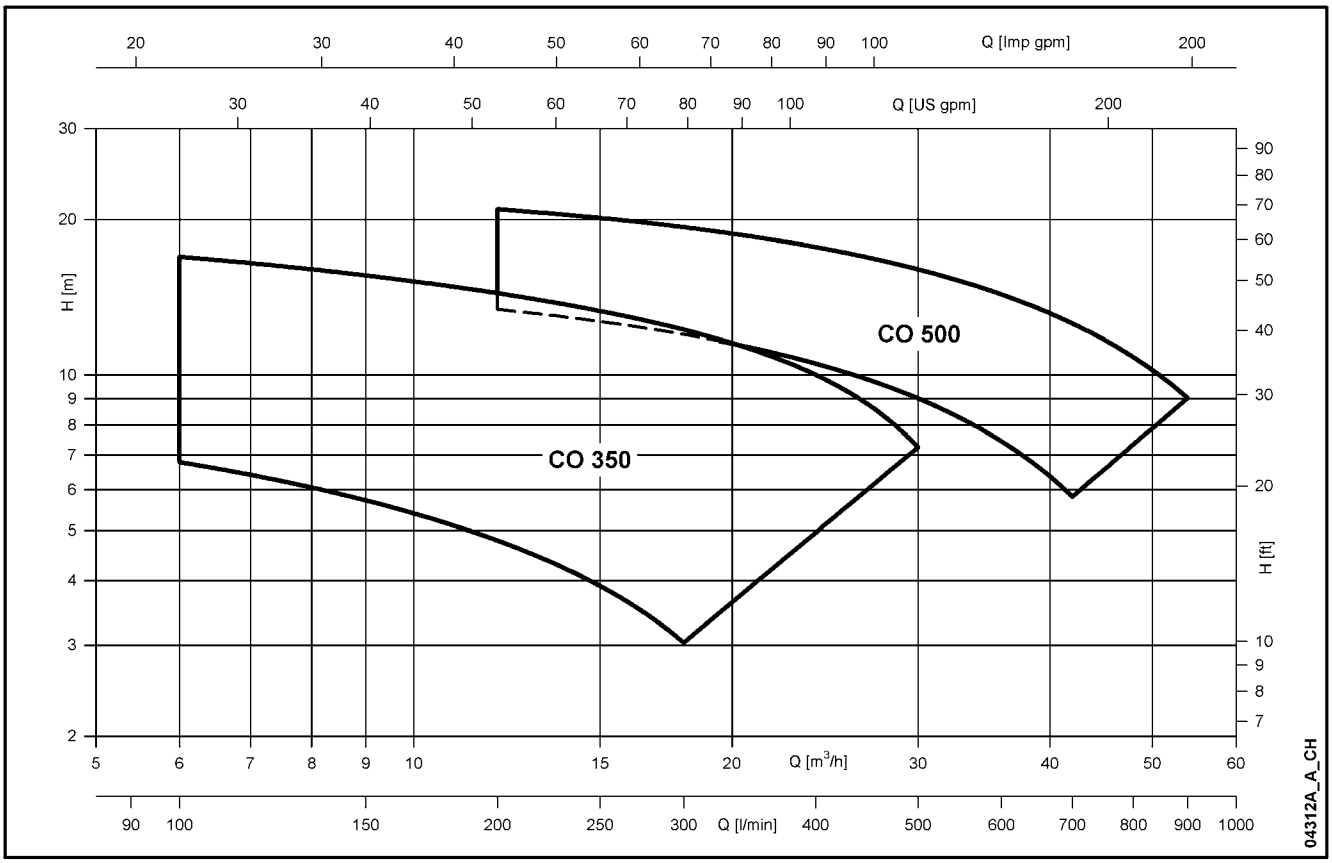


TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

ELECTRIC PUMP TYPE	RATED POWER		Q = DELIVERY																	
			l/min 0	100	120	160	200	240	280	300	350	375	400	450	500	600	650	700	800	900
			m³/h 0	6	7,2	9,6	12	14,4	16,8	18	21	22,5	24	27	30	36	39	42	48	54
	kW	HP	H = TOTAL HEAD METRES COLUMN OF WATER																	
CO(M) 350/03	0,37	0,5	9,5	6,8	6,3	5,5	4,8	4,1	3,4	3,0										
CO(M) 350/05	0,55	0,75	12,0	9,2	8,8	7,9	7,1	6,3	5,5	5,1	4,0									
CO(M) 350/07	0,75	1	13,7	11,2	10,8	9,9	9,1	8,2	7,4	6,9	5,8	5,3								
CO(M) 350/09	0,9	1,2	15,7	12,7	12,2	11,3	10,5	9,6	8,8	8,3	7,2	6,6	5,9							
CO(M) 350/11	1,1	1,5	17,3	14,3	13,8	12,9	12,0	11,2	10,5	10,1	9,1	8,6	8,0	6,8						
CO(M) 350/15	1,5	2	20,3	16,9	16,4	15,3	14,4	13,5	12,7	12,2	11,2	10,6	10,0	8,7	7,2					
CO(M) 500/15	1,5	2	16,0				13,4	12,8	12,3	12,0	11,3	10,9	10,5	9,8	9,0	7,4	6,6	5,8		
CO(M) 500/22	2,2	3	19,6				17,3	16,7	16,2	15,9	15,2	14,9	14,5	13,7	13,0	11,3	10,4	9,6	7,7	
CO 500/30	3	4	24,1				20,9	20,3	19,7	19,3	18,5	18,1	17,7	16,9	16,0	14,3	13,5	12,6	10,8	9,0

co-2p50-en_d_th

ELECTRIC PUMP TYPE SINGLE-PHASE	ABSORBED POWER*	ABSORBED CURRENT* 220-240 V	CAPACITOR
	kW	A	µF / 450 V
COM350/03	0,63	2,82	14
COM350/05	0,88	4,25	16
COM350/07	1,02	4,67	20
COM350/09	1,21	5,46	25
COM350/11	1,75	7,85	30
COM350/15	2,04	9,21	40
COM500/15	2,02	9,12	40
COM500/22	2,72	12,7	70
-	-	-	-

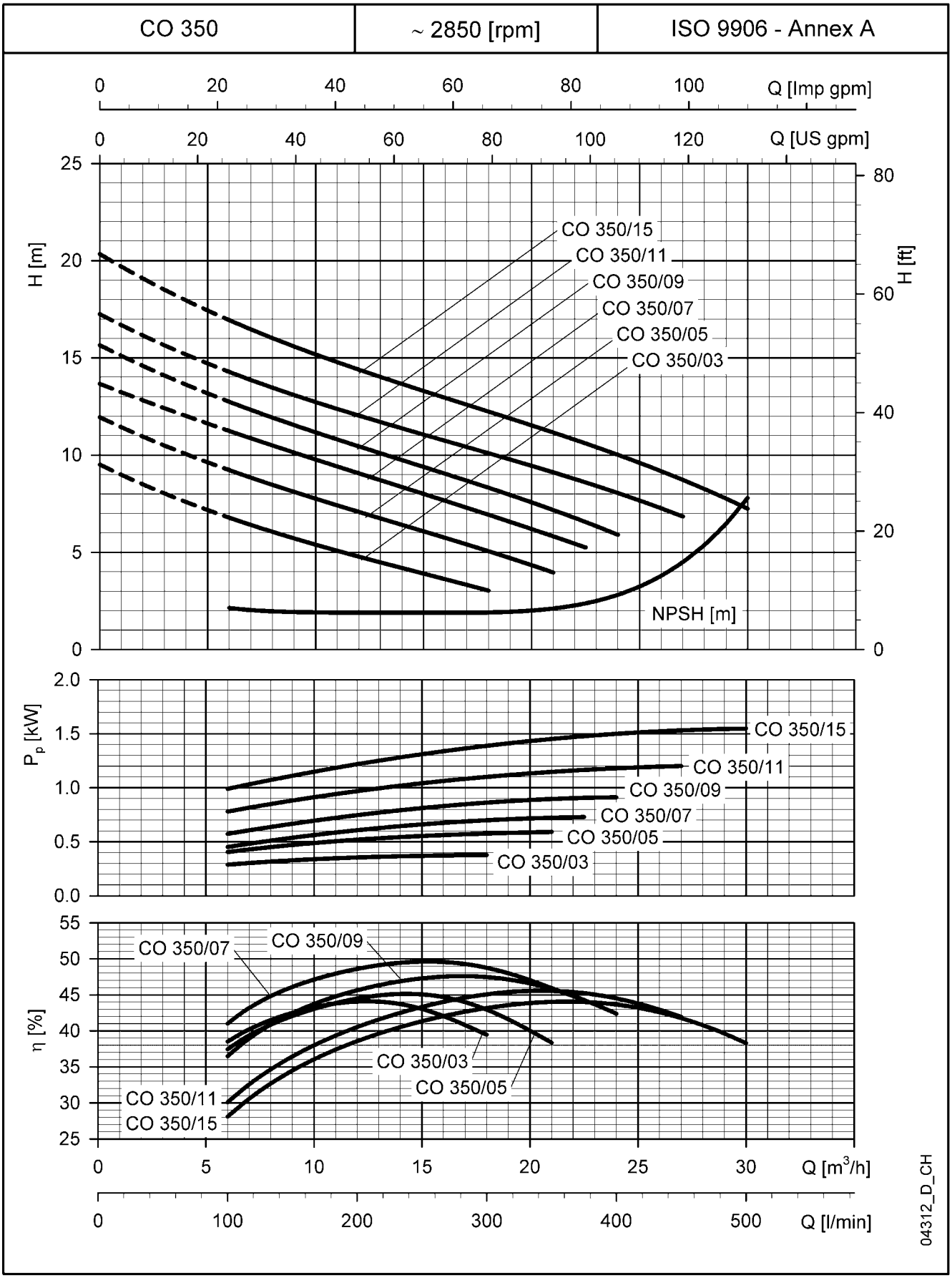
ELECTRIC PUMP TYPE THREE-PHASE	ABSORBED POWER*	ABSORBED CURRENT* 220-240 V	ABSORBED CURRENT* 380-415 V
	kW	A	A
C0 350/03	0,64	2,53	1,46
CO 350/05	0,79	2,7	1,56
C0 350/07	1	3,57	2,06
CO 350/09	1,13	4,21	2,43
C0 350/11	1,69	5,2	3
CO 350/15	1,98	6,3	3,64
C0 500/15	1,96	6,27	3,62
CO 500/22	2,73	9,06	5,23
C0 500/30	3,58	11,0	6,38

* Maximum values within the operating range.

co-2p50-en_d_te

CO350 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

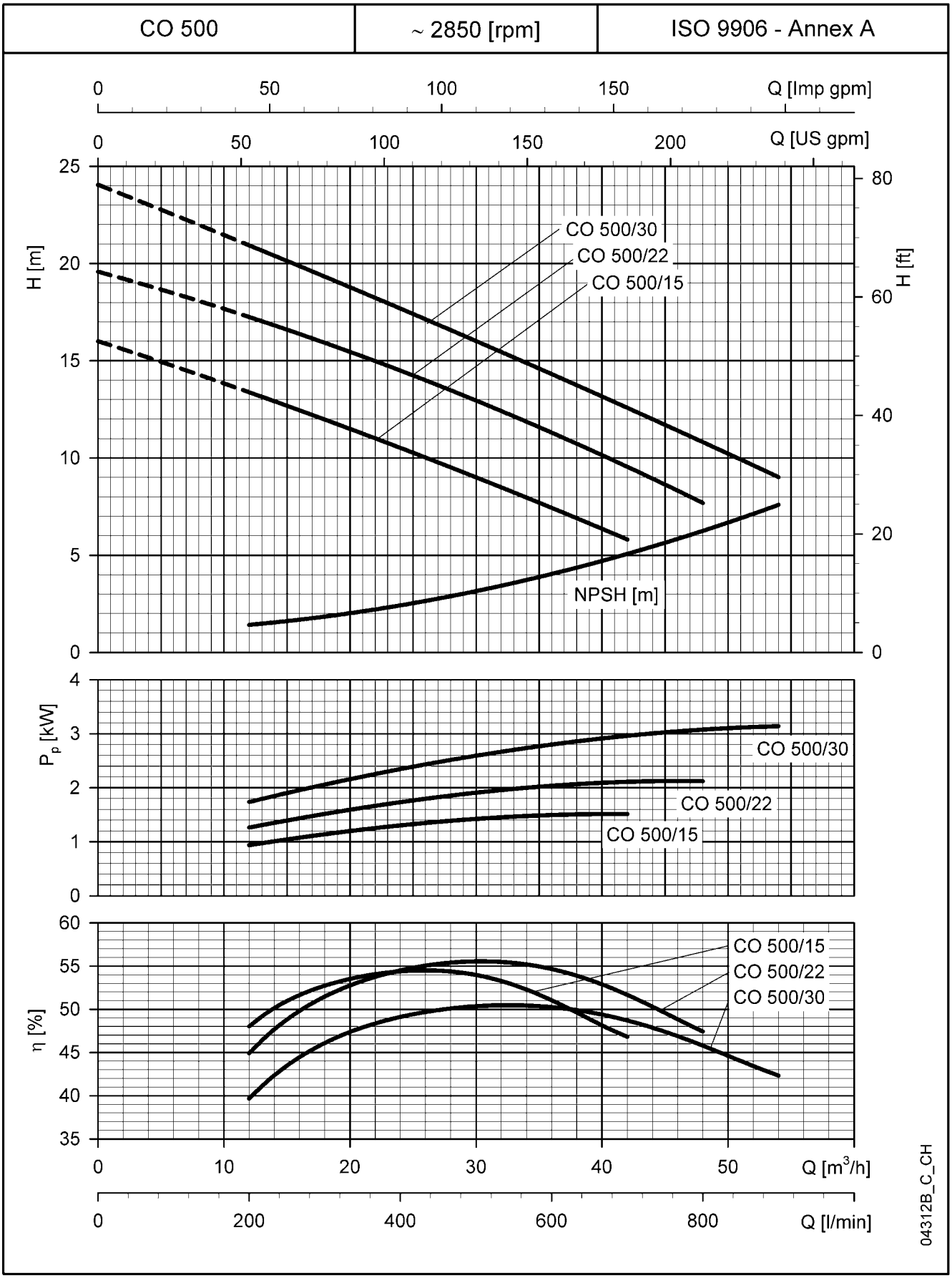
CO 350	~ 2850 [rpm]	ISO 9906 - Annex A



The NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1.0$ Kg/dm^3 and kinematic viscosity $\nu = 1$ mm^2/sec.

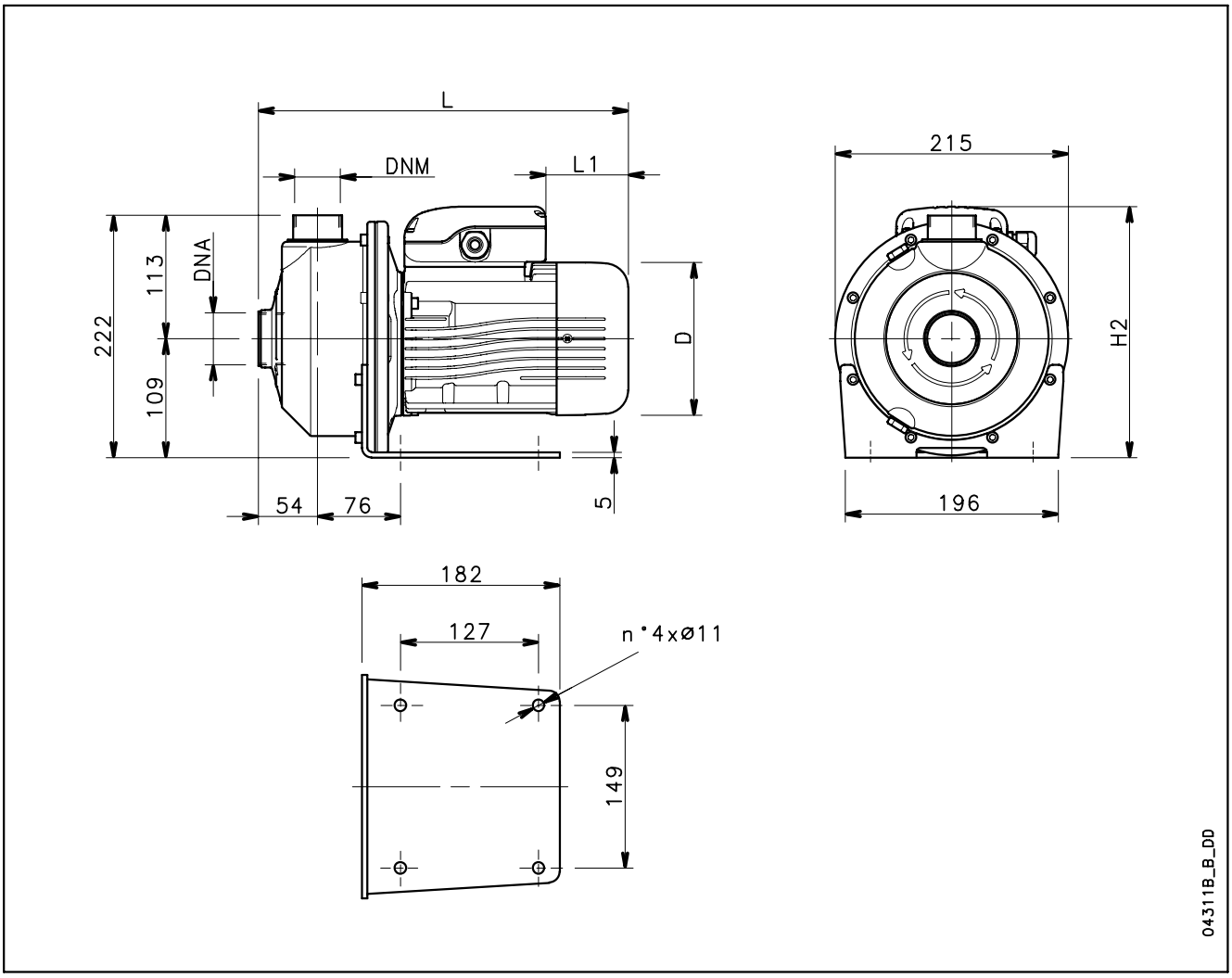
CO500 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

CO 500	~ 2850 [rpm]	ISO 9906 - Annex A



The NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1.0$ Kg/dm^3 and kinematic viscosity $\nu = 1$ mm^2/sec.

CO SERIES
DIMENSIONS AND WEIGHTS



PUMP TYPE	DIMENSIONS (mm)				DNA	DNM	WEIGHT
	D	H2	L	L1			kg
COM 350/03	120	220	325	62	Rp 1½	Rp 1¼	10
COM 350/05	140	230	339	76	Rp 1½	Rp 1¼	11,9
COM 350/07	140	230	339	76	Rp 1½	Rp 1¼	12,6
COM 350/09	140	239	339	31	Rp 1½	Rp 1¼	13,2
COM 350/11	156	246	385	69	Rp 1½	Rp 1¼	14,5
COM 350/15	156	246	385	69	Rp 1½	Rp 1¼	16,2
COM 500/15	156	246	385	69	Rp 2	Rp 1½	16,2
COM 500/22	174	243	429	84	Rp 2	Rp 1½	20
CO 350/03	120	220	325	62	Rp 1½	Rp 1¼	10
CO 350/05	140	230	339	76	Rp 1½	Rp 1¼	11,9
CO 350/07	140	230	339	76	Rp 1½	Rp 1¼	12,6
CO 350/09	140	230	339	76	Rp 1½	Rp 1¼	12,2
CO 350/11	156	238	385	114	Rp 1½	Rp 1¼	14,5
CO 350/15	156	238	385	114	Rp 1½	Rp 1¼	16,2
CO 500/15	156	238	385	114	Rp 2	Rp 1½	16,2
CO 500/22	156	238	385	114	Rp 2	Rp 1½	17,8
CO 500/30	174	243	429	172	Rp 2	Rp 1½	25