

# Open impeller centrifugal electric pumps

## CO - COM Series



### 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 other systems.
- Dyeing plants and textile industry.
- Plants for the circulation and transfer of moderately dense and viscous liquids, with moderate chemical aggressiveness.
- Industrial washing machines and commercial dishwashers.

### CONSTRUCTION FEATURES

- Close-coupled, single-impeller centrifugal pump featuring axial intake and radial discharge.
- Threaded suction and delivery ports.
- Compact construction; motor and pump are coupled by spider; 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 projection-welded onto base disk.
- Front impeller wear surface consisting of a sturdy AISI 316L stainless steel plate, TIG welded onto the suction port.
- AISI 316L stainless steel pump body and seal holding disk, with no diffusers or cavities for easier cleaning and maintenance.
- Pump body is secured by eight screws, allowing for the rotation of the delivery port.
- **Mechanical seal:**  
Standard version: Alumina and graphite sliding surfaces, FPM elastomers.  
Other parts are made of AISI 316L stainless steel.  
"K" version: Sliding surfaces are made of Silicon Carbide and Tungsten Carbide.  
FPM elastomers.  
Other parts are made of AISI 316L stainless steel.
- FPM O-Rings.

### SPECIFICATIONS

#### PUMP

- Delivery up to 900 l/min (54 m<sup>3</sup>/h).
- Head up to 24.5 mcw.
- Pumped liquid temperature up to 110°C.
- Maximum working pressure: 8 bar (PN8).
- **Suspended solids handled up to:**  
CO350: 11 mm.  
CO500: 20 mm.

#### MOTOR

- Asynchronous, squirrel cage rotor, enclosed construction in aluminium case, external ventilation.
- IP55 protection.
- Class F insulation.
- Performance in compliance with CEI 2-3 (IEC 34.1).
- Maximum ambient temperature: 40°C.
- **Standard voltage:**
  - **Single-phase versions** 220-240 V, 50 Hz, 2 poles, automatic reset overload protection up to 1,5 kW. For higher power the overload protection must be provided and installed by the user in the control panel.
  - **Three-phase version:** 220-240/380-415 V, 50 Hz, 2 poles; the overload protection must be provided and installed by the user in the control panel. Suitable control panels are available on request.
- Condensation drain plugs on all 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

### OPTIONAL FEATURES

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

## MATERIALS

PART	MATERIAL			
	UNI		DIN - EN	ASTM - AISI
Pump body	stainless steel	X2 CrNiMo 1712	1.4404	AISI 316L
Impeller	stainless steel	X2 CrNiMo 1712	1.4404	AISI 316L
Seal holding disk	stainless steel	X2 CrNiMo 1712	1.4404	AISI 316L
Spider	Aluminum			
Mechanical seal	Ceramic/Carbon//FPM <sup>(1)</sup>			
O-Rings	FPM			
Shaft	stainless steel	X5 CrNiMo 1712	1.4401	AISI 316
Fill/drain plug	stainless steel	X5 CrNiMo 1712	1.4401	AISI 316
Impeller fastening nut	stainless steel	X5 CrNiMo 1712	1.4401	AISI 316

(<sup>1</sup>) "K" version: Silicon carbide / Tungsten carbide / FPM

## MECHANICAL SEAL

The characteristics of the standard configuration are shown in table 1.

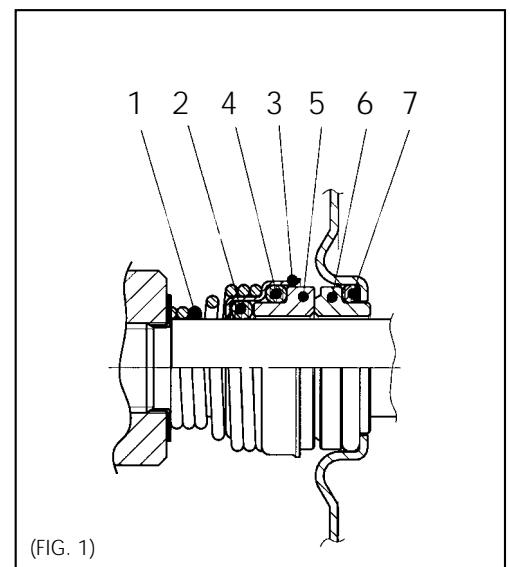
### STANDARD MATERIALS (TAB. 1)

POS.	COMPONENT	MATERIALS
1	Spring	AISI 316 stainless steel
2	Shaft O-ring	FPM
3	Armature	AISI 316 stainless steel
4	Impeller O-ring	FPM
5	Impeller seal ring	Ceramic
6	Fixed ring	Carbon
7	Fixed O-ring	FPM

Various alternative materials are available on request. A fixed seal design with an anti-rotation lockpin is available on request. This special configuration has the characteristics shown in table 1.

### ALTERNATIVE MATERIALS (Tab. 2) (on request)

POS.	MATERIALS
2-4-7	EPDM
5-6	Tungsten carbide - Silicon carbide
	Tungsten carbide - Tungsten carbide



## ELECTRICAL DATA (50 Hz, 2850 rpm) CO - COM SERIES

PUMP TYPE THREE-PHASE	MOTOR POWER P2		ABSORBED CURRENT In (A)		ABSORBED POWER P1 kW	STARTING CURRENT Is/In
	kW	HP	$\Delta$ 220/240 V	Y 380/415 V		
CO 350/03	0,37	0,5	1,9	1,1	0,62	4,7
CO 350/05	0,55	0,75	2,8	1,6	0,86	5,3
CO 350/07	0,75	1	3,3	1,9	1,05	5,8
CO 350/09	0,9	0,2	3,6	2,1	1,2	5,8
CO 350/11	1,1	0,5	5	2,9	1,55	6,4
CO 350/15	1,5	2	6,4	3,7	2,05	6,6
CO 500/15	1,5	2	6,2	3,6	2	6,6
CO 500/22	2,2	3	8,7	5	2,9	6,9
CO 500/30	3	4	6,9	3	4,1	6,8

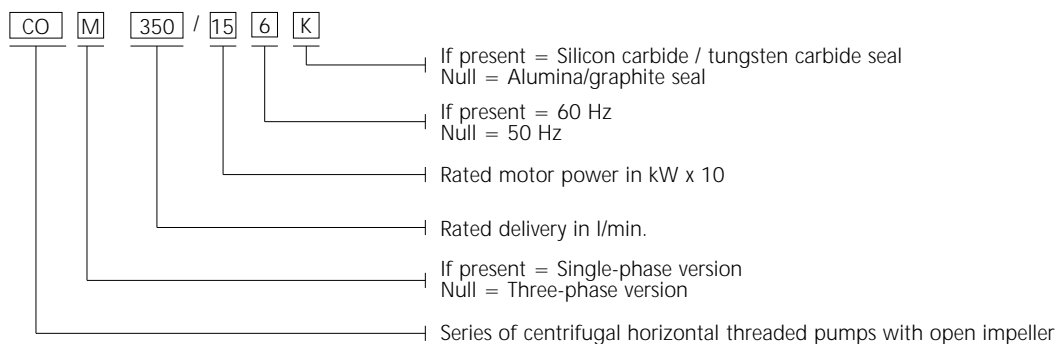
Motor type: SM (up to P2 = 2,2 kW)  
LM (over P2 = 2,2 kW)

PUMP TYPE MONOFASE	MOTOR POWER P2		ABSORBED CURRENT In (A) 220-240 V	CAPACITOR		ABSORBED POWER P1 kW	STARTING CURRENT Is/In
	kW	HP		$\mu$ F	V		
COM 350/03	0,37	0,5	2,7	12,5	450	0,62	3
COM 350/05	0,55	0,75	4	18	450	0,89	3,4
COM 350/07	0,75	1	4,9	22	450	1,1	3,7
COM 350/09	0,9	0,2	5,6	22	450	1,25	3,7
COM 350/11	1,1	0,5	7,4	30	450	1,55	4
COM 350/15	1,5	2	9,8	40	450	2,15	4,1
COM 500/15	1,5	2	9,5	40	450	2,1	4,1
COM 500/22	2,2	3	13	50	450	3	3,3

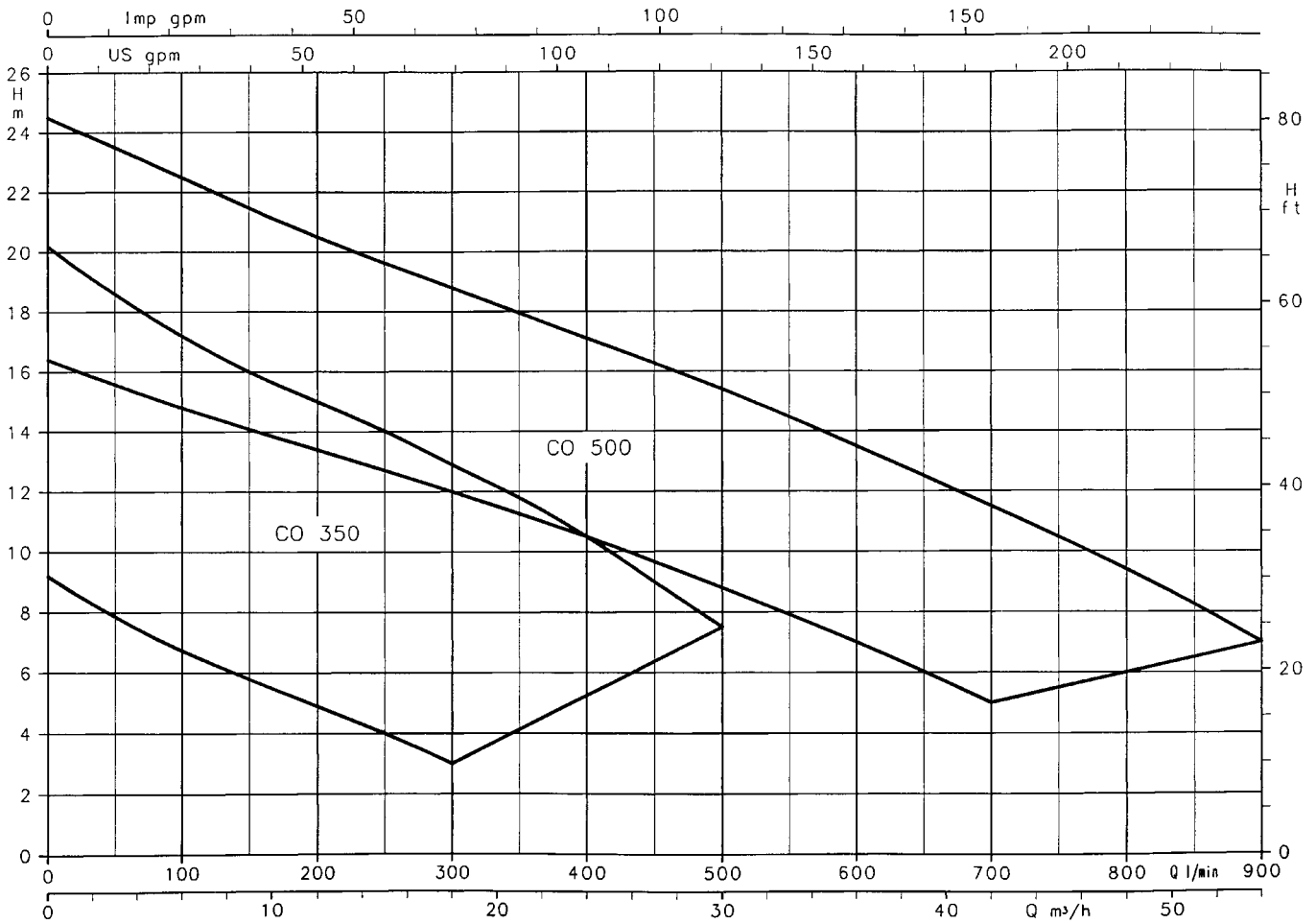
Motor type: SM (up to P2 = 1,5 kW)  
LM (over P2 = 1,5 kW)

## IDENTIFICATION CODE

The CO-COM series models are coded as follows:



## HYDRAULIC PERFORMANCE RANGE CO SERIES, 50 Hz, 2 POLES (2850 rpm)

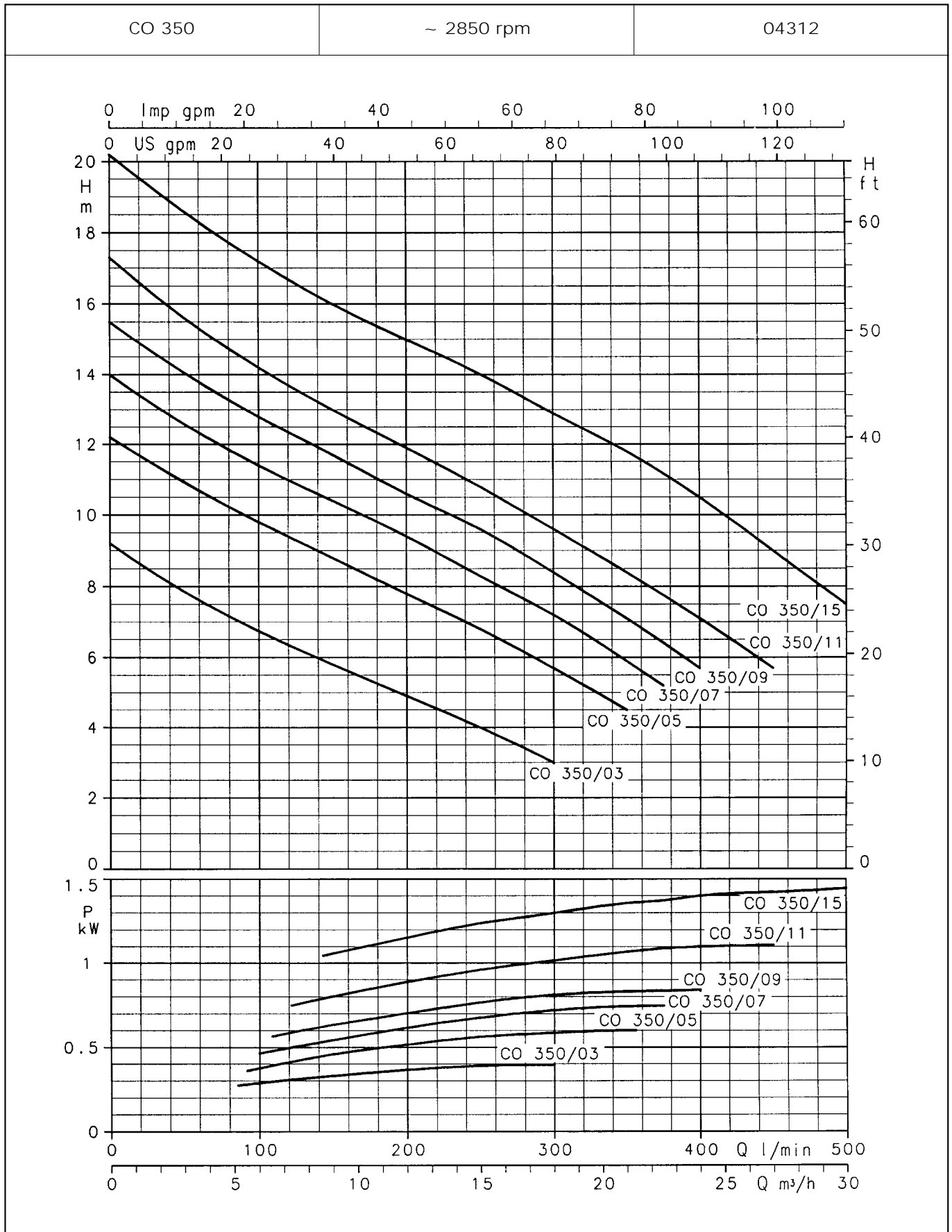


Guaranteed performances in compliance with ISO 2548 for class C standard pumps.

## HYDRAULIC PERFORMANCE TABLE CO SERIES, 50 Hz, 2 POLES

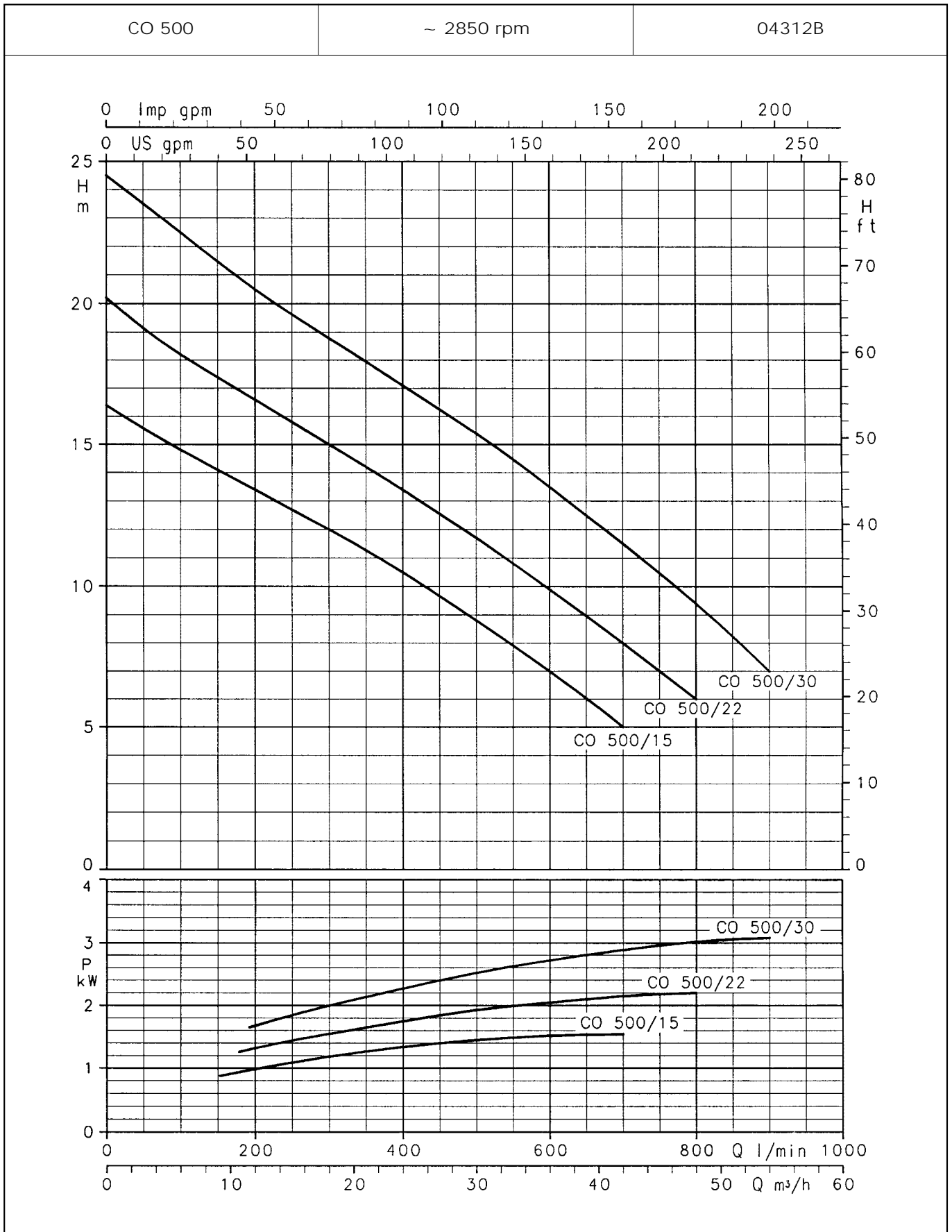
PUMP TYPE		kW	HP	Q = DELIVERY													
SINGLE-PHASE	THREE-PHASE			l/min	0	100	150	200	250	300	400	500	600	700	800	900	
				m³/h	0	6	9	12	15	18	24	30	36	42	48	56	
				H = TOTAL HEAD METERS COLUMN OF WATER													
COM 350/03	CO 350/03	0,37	0,5	0,2	6,8	5,8	4,9	4	3								
COM 350/05	CO 350/05	0,55	0,75	12,2	9,8	8,8	7,8	6,8	5,7								
COM 350/07	CO 350/07	0,75	1	14	11,4	10,4	9,4	8,3	7,2								
COM 350/09	CO 350/09	0,9	1,2	15,5	12,8	11,7	10,6	9,6	8,4	5,7							
COM 350/11	CO 350/11	1,1	1,5	17,5	14,2	13	11,9	10,8	9,6	7,1							
COM 350/15	CO 350/15	1,5	2	20,2	17,2	16	15	14,1	12,9	10,5	7,5						
COM 500/15	CO 500/15	1,5	2	16,4			13,4	12,7	12	10,5	8,8	7	5				
COM 500/22	CO 500/22	2,2	3	20,2			16,6	15,8	15	13,4	11,7	9,9	8	6			
-	CO 500/30	3	4	24,5			20,5	19,6	18,8	17,1	15,4	13,5	11,5	9,4	7		

**HYDRAULIC PERFORMANCE CURVES**



The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0.5 m.  
 The declared performances and power are valid for liquids with density  $\rho = 1.0 \text{ kg/dm}^3$  and kinematic viscosity  $\gamma = 1 \text{ mm}^2/\text{sec}$ .

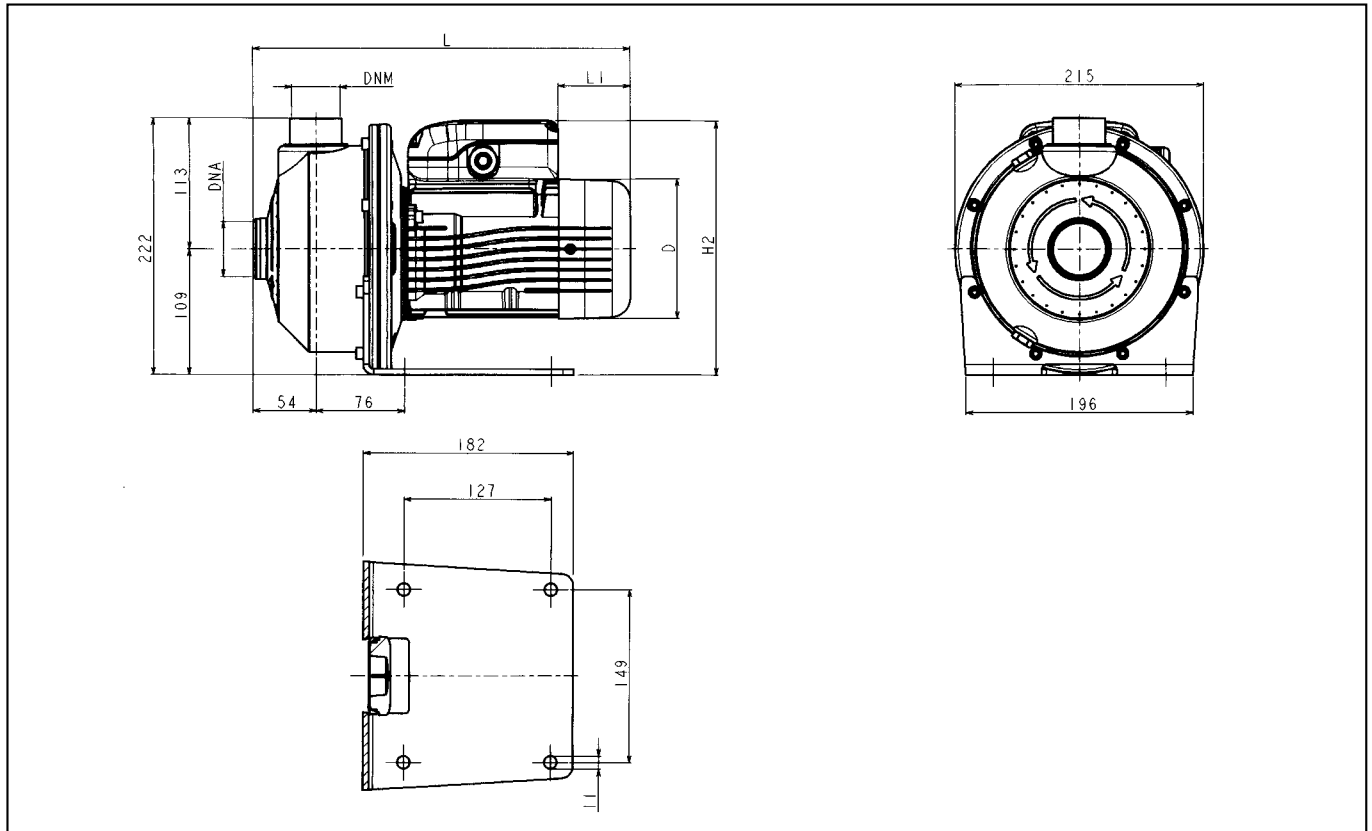
**HYDRAULIC PERFORMANCE CURVES**



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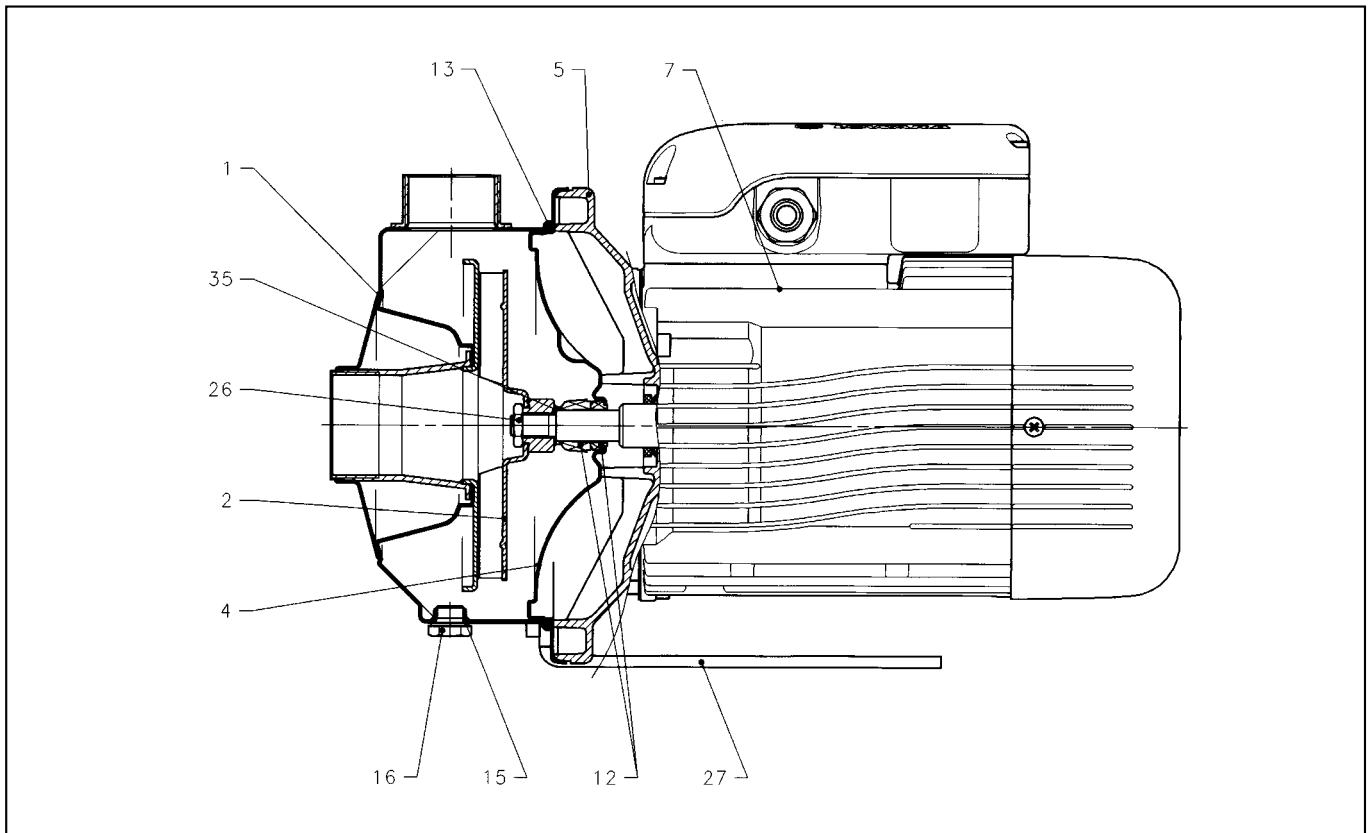
## DIMENSIONS AND WEIGHTS



CO-COM

PUMP TYPE	kW	DIMENSIONS IN mm				DNA	DNM	WEIGHT kg
		D	H <sub>2</sub>	L	L1			
COM 350/03	0,37	120	220	325	62	Rp1"1/2	Rp1"1/4	9
COM 350/05	0,55	140	230	339	76	Rp1"1/2	Rp1"1/4	10
COM 350/07	0,75	140	230	339	76	Rp1"1/2	Rp1"1/4	12
COM 350/09	0,9	140	239	339	31	Rp1"1/2	Rp1"1/4	12
COM 350/11	1,1	156	246	385	69	Rp1"1/2	Rp1"1/4	15
COM 350/15	1,5	156	246	385	69	Rp1"1/2	Rp1"1/4	18
COM 500/15	1,5	156	246	385	69	Rp 2"	Rp1"1/2	18
COM 500/22	2,2	176	230	416	114	Rp 2"	Rp1"1/2	20
CO 350/03	0,37	120	220	325	62	Rp1"1/2	Rp1"1/4	9
CO 350/05	0,55	140	230	339	76	Rp1"1/2	Rp1"1/4	10
CO 350/07	0,75	140	230	339	76	Rp1"1/2	Rp1"1/4	12
CO 350/09	0,9	140	230	339	76	Rp1"1/2	Rp1"1/4	12
CO 350/11	1,1	156	238	385	114	Rp1"1/2	Rp1"1/4	13
CO 350/15	1,5	156	238	385	114	Rp1"1/2	Rp1"1/4	15
CO 500/15	1,5	156	238	385	114	Rp 2"	Rp1"1/2	16
CO 500/22	2,2	156	238	385	114	Rp 2"	Rp1"1/2	18
CO 500/30	3	176	230	416	149	Rp 2"	Rp1"1/2	20

PUMP SECTION AND LIST OF MAIN COMPONENTS



REF. N.	DESCRIPTION
1	Pump body
2	Impeller
4	Seal holding disk
5	Adaptor
7	Motor
*12	Mechanical seal
*13	O-ring
*15	O-ring
16	Fill/drain plug
26	Impeller fastening nut
27	Support foot
35	Washer shim

\* Recommended spare parts

CO-COM