

## GENERAL INFORMATION - ECM SERIES

### End Suction Centrifugal Mixed Flow Pumps



#### CONSTRUCTION

C.R.I. End suction mixed flow pumps are horizontal single stage volute casing pumps with discharge port are tangentially vertical/horizontal. These pumps features horizontal shaft components with axial suction and impellers are designed and radial discharge ports. Pumps volute chamber and impellers are carefully designed to give the best possible and suction lift characteristics.

Most modern and highly sophisticated machinery and technology are employed in the manufacture of these pumps using quality raw material, dynamically balanced impellers, seal and bearings to ensure long life.

#### FEATURES

- Designed to allow interchangeability of their component between all individual pump sizes.
- Minimizes shaft deflection maximizes bearing and mechanical seal life.
- Heavy duty bearing ensures long life.
- Back pull out design facilitates dismantling the pump without disconnecting the pump casing from the pipes.
- Dimensions and characteristics according to DIN 24255 standards.
- Available both in mechanical seal and soft packed stuffing box design.

#### APPLICATIONS

- Water supply
- Irrigation
- Pressure boosting
- Fire protection
- Heating and air conditioning systems
- Circulation and transfer of clean, chemically non-aggressive water and liquids
- General industrial services
- Water supply to swimming pool, fountains.
- Dewatering
- Pumping sea water
- Sugar Industry

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### End Suction Centrifugal Mixed Flow Pumps

#### OPERATING LIMITS

Outlet size range	: NB200 to 450mm
Flow range	: Upto 3600 m <sup>3</sup> /h
Total Head range	: Upto 45m
Operating temperature with soft packed stuffing box	: 60°C
Operating temperature with mechanical seal	: 60°C
Maximum working pressure	: 16bar

#### MATERIALS OF CONSTRUCTION

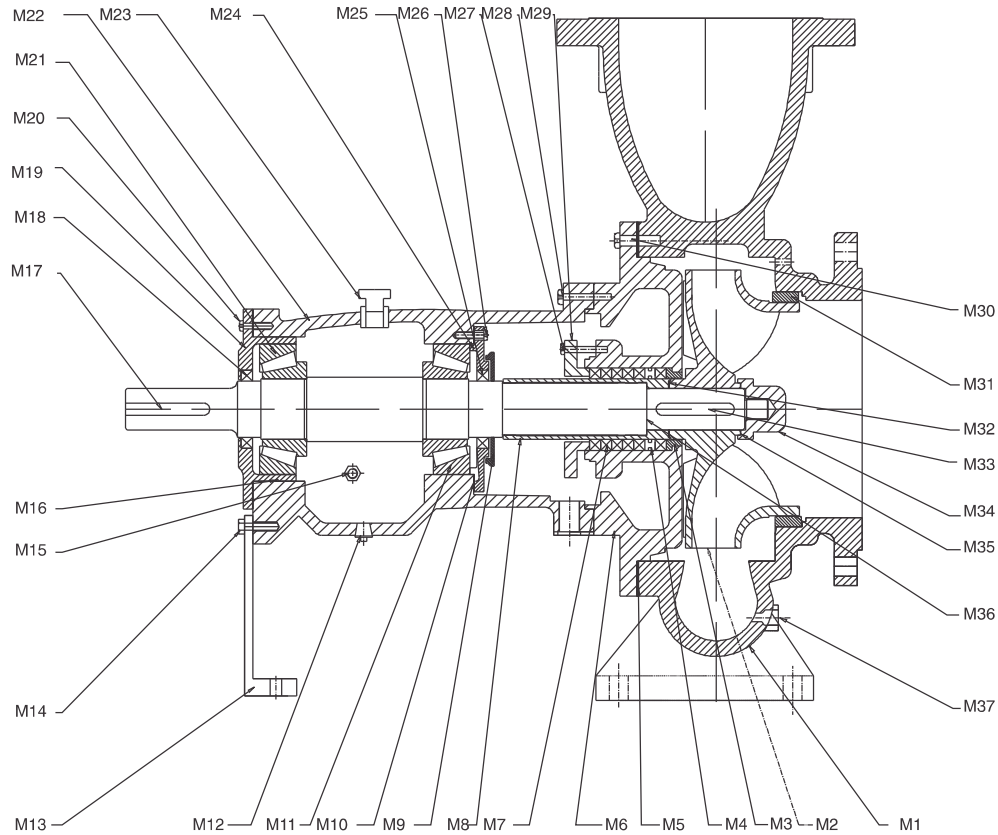
Pump Parts	Type - C	Type - B	Type - S
Volute Casting	C.I	C.I	SS 304
Stuffing box	C.I	C.I	SS 304
Gland	C.I	C.I	SS 304
Suction Cover	C.I	C.I	SS 304
impeller	C.I	BRONZE	SS 304
Pump Shaft	BS 970 En-8	BS 970 En-8	SS 304 / 316
Shaft Sleeve	SS 410	SS 410	SS 410
Lantern Ring	BS 970 En-8		
Gland Packing	TIGA		
Fasteners	BS 970 En-8		
C.I : IS 210 FG 200		BRONZE: IS 318Gr.2	
AISI 410 : Bar stock Stainless Steel ASTM A.743 Type 410			

#### TECHNICAL DATA

PUMP TYPE	SUCTION SIZE 'mm'	DELIVERY SIZE 'mm'	OIL SEAL SIZE	BEARING	GD <sup>2</sup> -Value Kg-m <sup>2</sup>	PUMP WEIGHT "kg"
200/320	250	200	90 X 65 X 10	312314 X 2 NOS	0.175	290
200/400	250	200	90 X 65 X 10	312314 X 2 NOS	0.380	310
250/320	250	250	90 X 65 X 10	312314 X 2 NOS	0.390	310
250/270	200	250	35 X 50 X 9 40 X 62 X 9	6408 X 2 - 51212 X 1	0.060	260
300/320	300	300	90 X 65 X 10	312314 X 2 NOS	0.220	360
250/400	300	250	75 X 100 X 10 80 X 90 X 10	3316 - NU 316	0.946	360
450/550	400	450	105 X 75 X 15 105 X 72 X 15	6415 X 2 - 51320 X 1	1.590	1425

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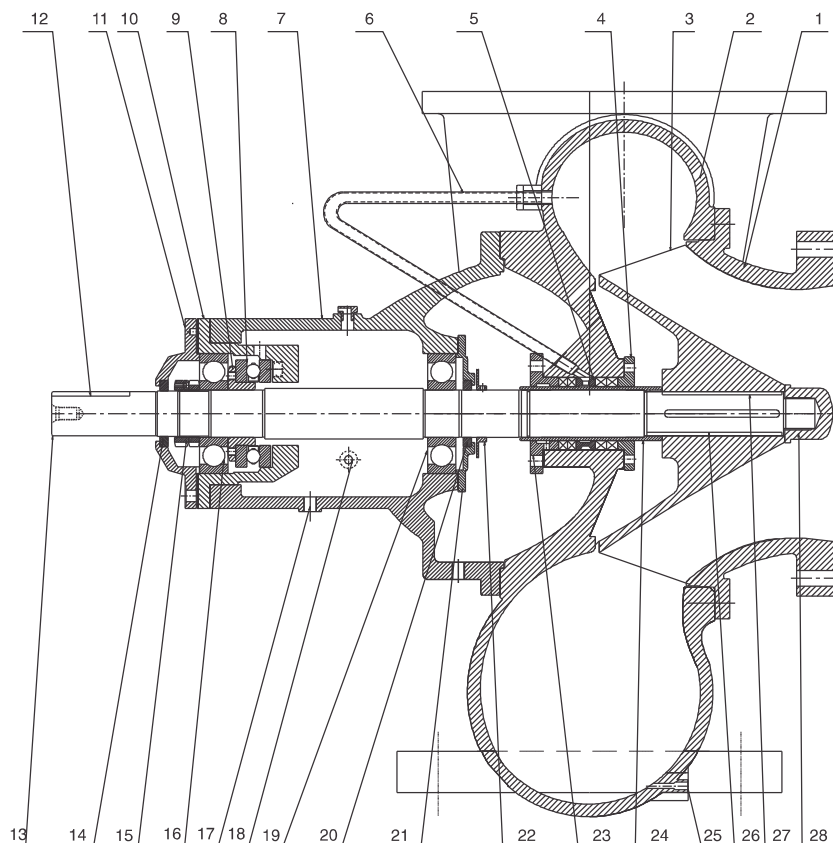
## CROSS SECTIONAL DRAWING



Code No	Part Name	Material	Qty
M1	Volute Casing		1
M2	Impeller		1
M3	Lay Brith Nech Ring		1
M4	Lantern Ring		1
M5	Gasket Casing		1
M6	Casing Cover		1
M7	Gland Packing	Tiga / Ptte	1set
M8	Shaft Sleeve		1
M9	Deflector		1
M10	Gasket Inner Bearing Cover		1
M11	Bearing Pump End	Steel	1
M12	Plug (oil Drain)	Bs 970 En8	1
M13	Support Foot	Is 226 C15	1
M14	Support Foot Bolt	En8	1
M15	Oil Level Sight Glass	Aluminium	1
M16	O Ring Adopter		1
M17	Key (coupling)	Bs 970 En8	1
M18	Oil Seal (drive End)65x90x10		1
M19	Bearing Adopter	Is210 Fg 200	1
M20	Adopter Bolt	Ms	1
M21	Bearing Drive End	Bs 970 En8	1
M22	Bearing Bed	En8	
M23	Vent	Pp	1
M24	Bearing Cover (inner)		1
M25	Oil Seal (pump End )65x90x10		1
M26	Brg Cap / Brg Housing Bolt	Is210 Fg 200	1
M27	Gland Stud & Nut	Is 210 Fg 200	1
M28	Brg Bed / S.box Stud & Nut		1
M29	Gland Split		1
M30	Casing / S.box Stud & Nut		1
M31	Wear Ring		1
M32	Gasket Sleeve / Impeller		1
M33	Key Impeller		1
M34	Impeller Nut		1
M35	Gasket (imp. Nut)	Teflon	1
M36	Pump Shaft		1
M37	Plug Casing Drain		

## GENERAL INFORMATION - ECM SERIES

### CROSS SECTIONAL DRAWING



Code No	Part Name	Material	Qty
1	Suction Cover	Ci	1
2	Volute Casing	Ci	1
3	Impeller	Ci / Gm	1
4	Stuffing Box Cover	Ci	1
5	Lantern Ring	Ss	1
6	St.box Colling Tupe	Steel	1
7	Bearing Bed	Ci	1
8	Thrust Bearing (drive)	Steel	1
9	Thrust Bearing Adopter	Ci	1
10	Bearing Adopter	Ci	1
11	Bearing Cap Outer	Ci	1
12	Key Coupling		1
13	Shaft	En8 / Ss	1
14	Oil Seal(drive)75x105x13	Rubber	1
15	Lock Nut	Bs 970 En8	1
16	Ball Bearing (drive)	Steel	1
17	Oil Rain Plug		1
18	Oil Level Sight Glass	Aluminium	1
19	Ball Bearing(pump)	Steel	1
20	Oil Seal(pump)75x105x13		1
21	Bearing Cap Inner	Is210 Fg 200	1
22	Deflector	Ss316	1
23	Gland	Is 270 Fg 200	1
24	Sleeve		1
25	Casing Drain		1
26	Key Sleeve		1
27	Key Impeller		1
28	Impeller Nut	Ss	1

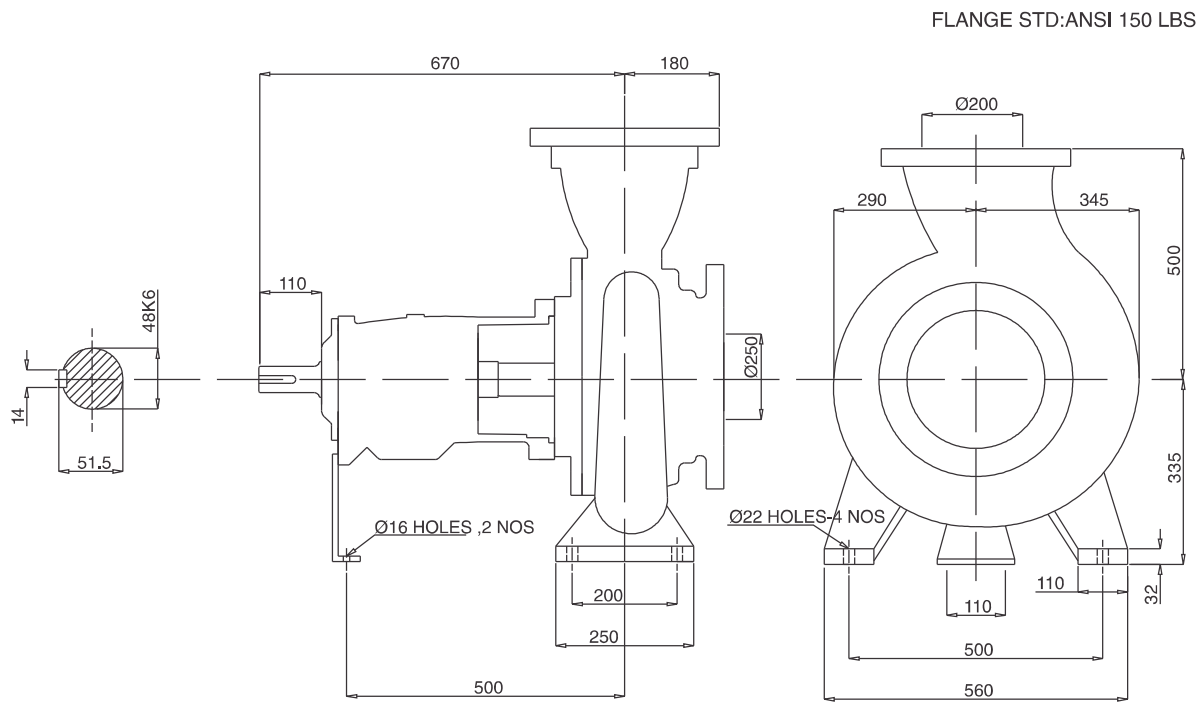


## OVERALL DIMENSIONAL DRAWING

Model : ECM-200/320

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 250 x 200



DIRECTION OF ROTATION : CLOCK WISE FROM DRIVE END

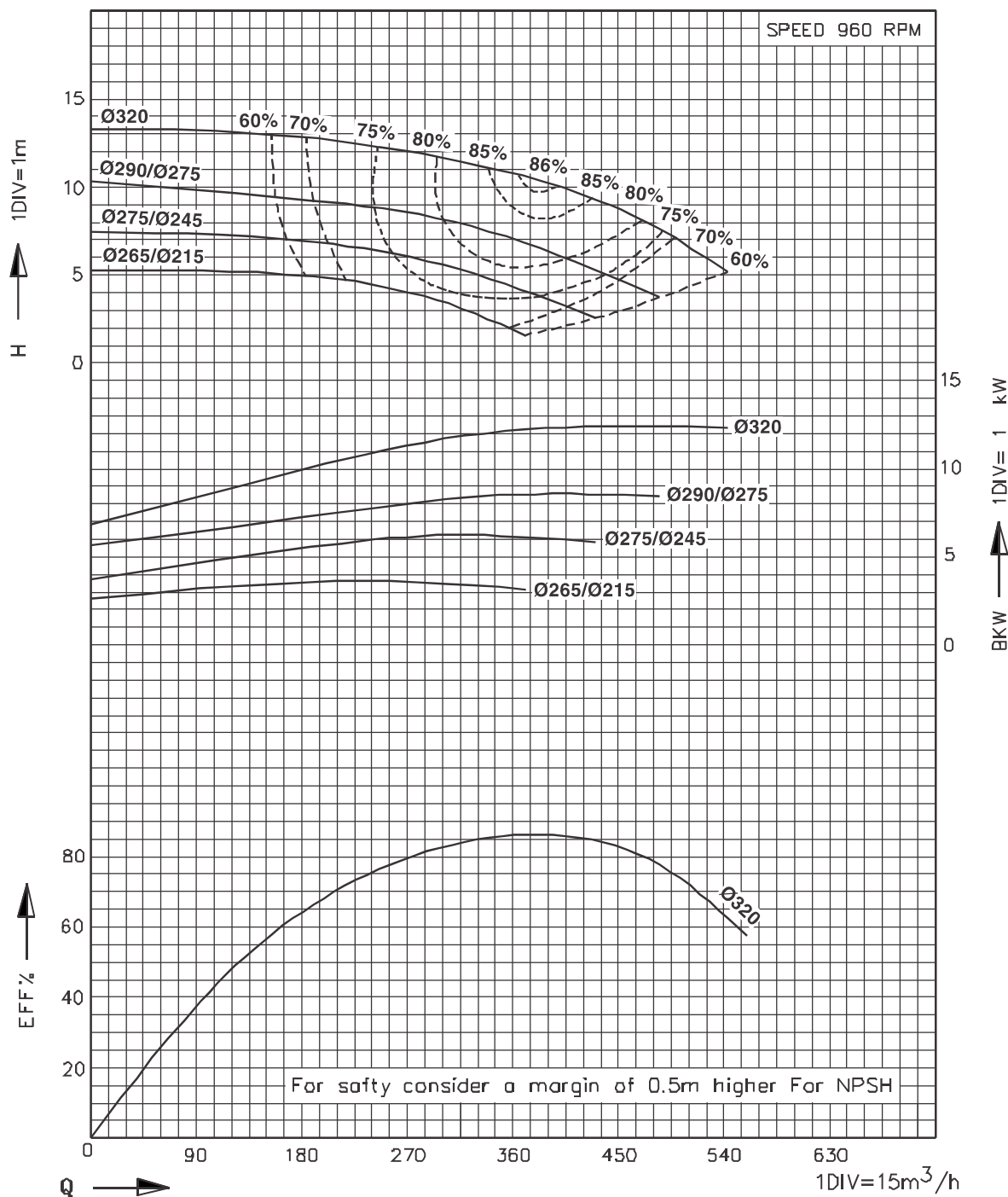


## PERFORMANCE CURVE

Model : ECM-200/320

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 250 x 200



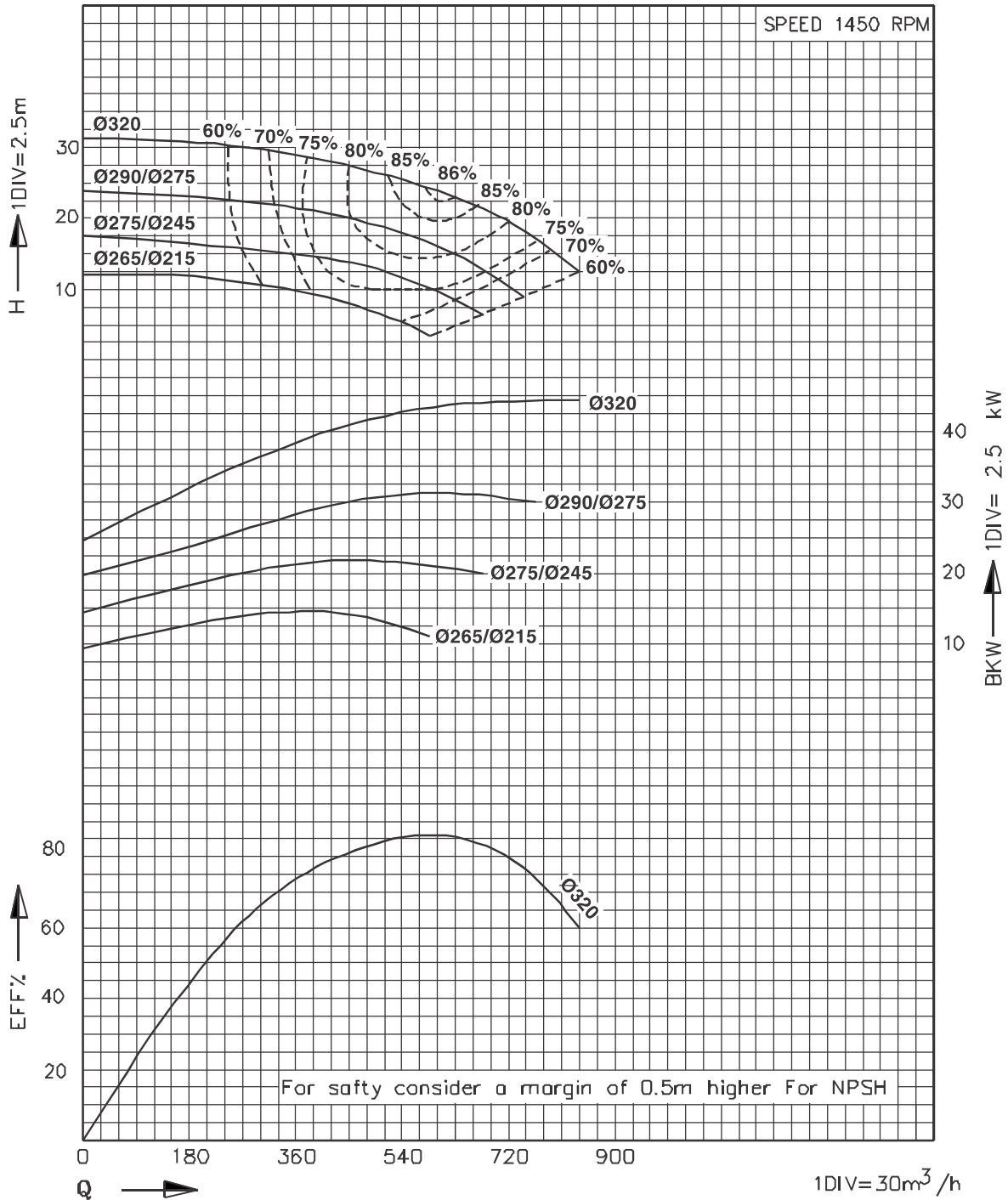


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Model : ECM-200/320

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SIZE : 250 x 200



DIRECTION OF ROTATION : CLOCK WISE FROM DRIVE END



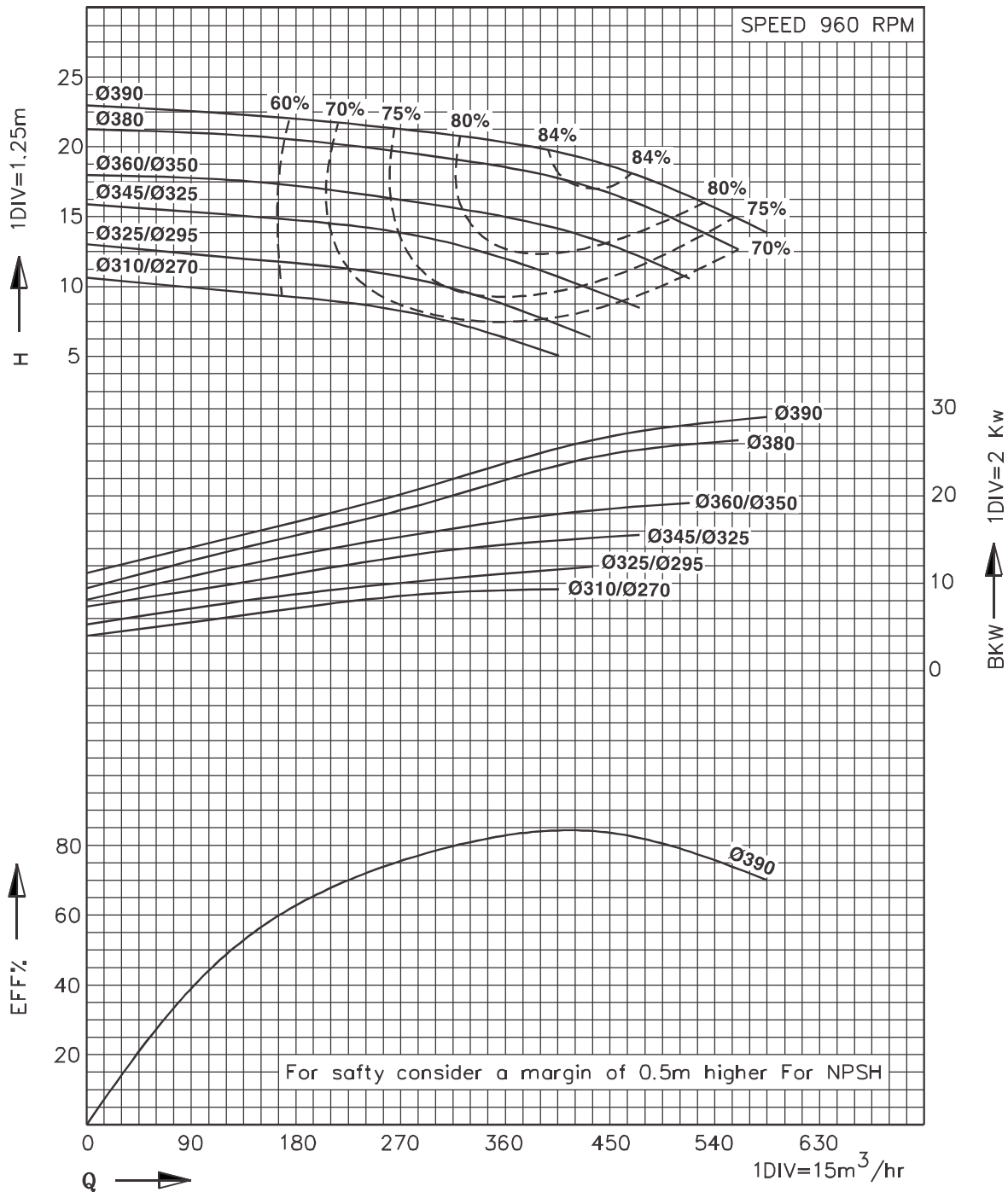


## PERFORMANCE CURVE

Model : ECM-200/400

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 250 x 200



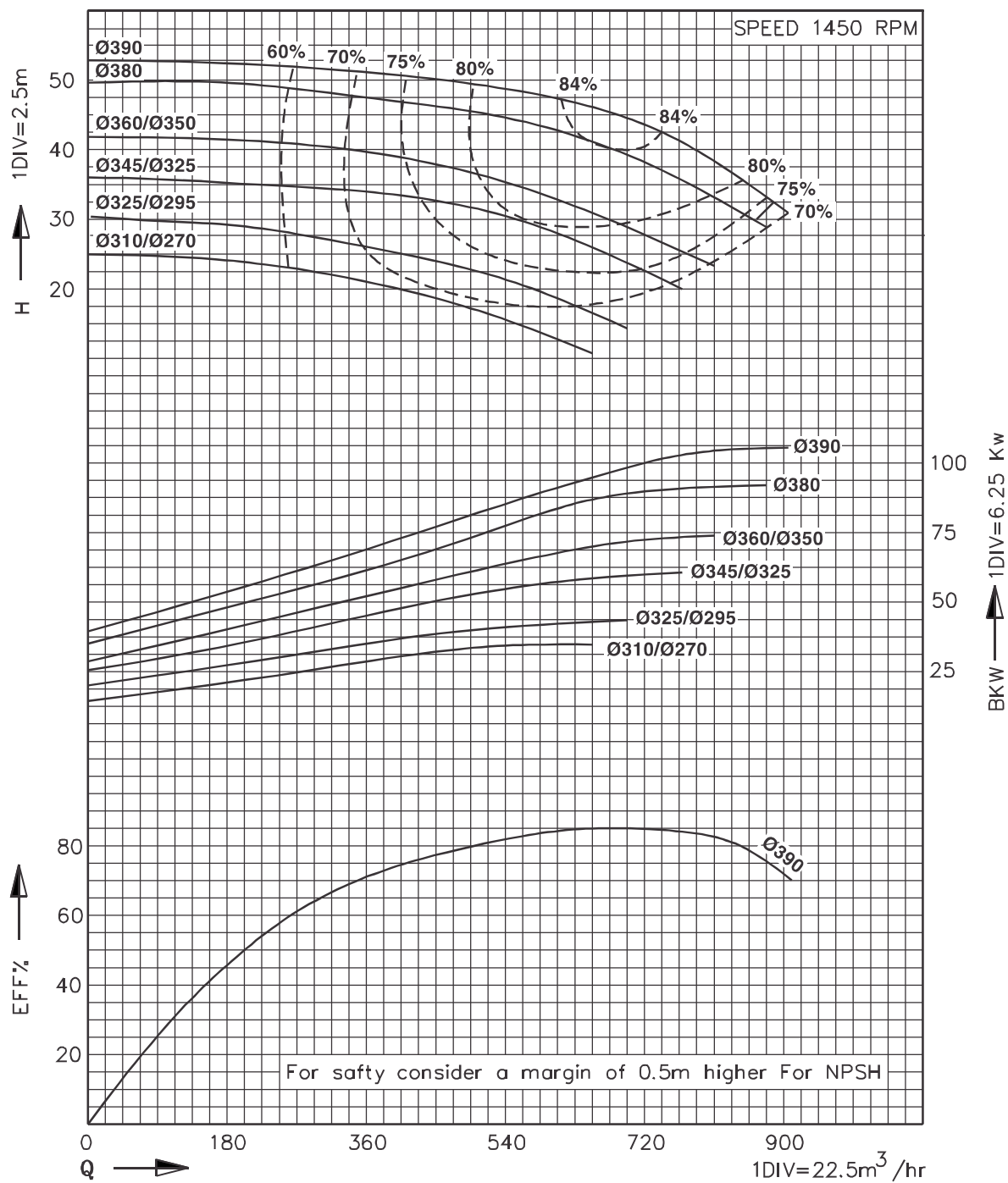


## PERFORMANCE CURVE

Model : ECM-200/400

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 250 x 200





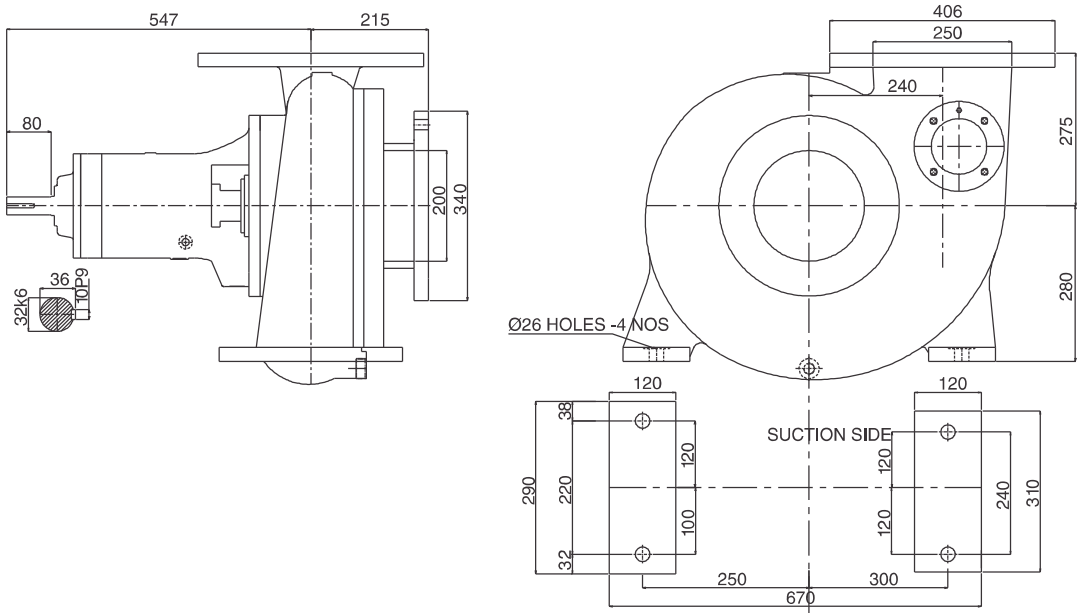
OVERALL DIMENSIONAL DRAWING

Model : ECM-250/270

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 200 x 250

FLANGE STD:BS10 TABLE "D"



DIRECTION OF ROTATION:CLOCK WISE FROM DRIVE END

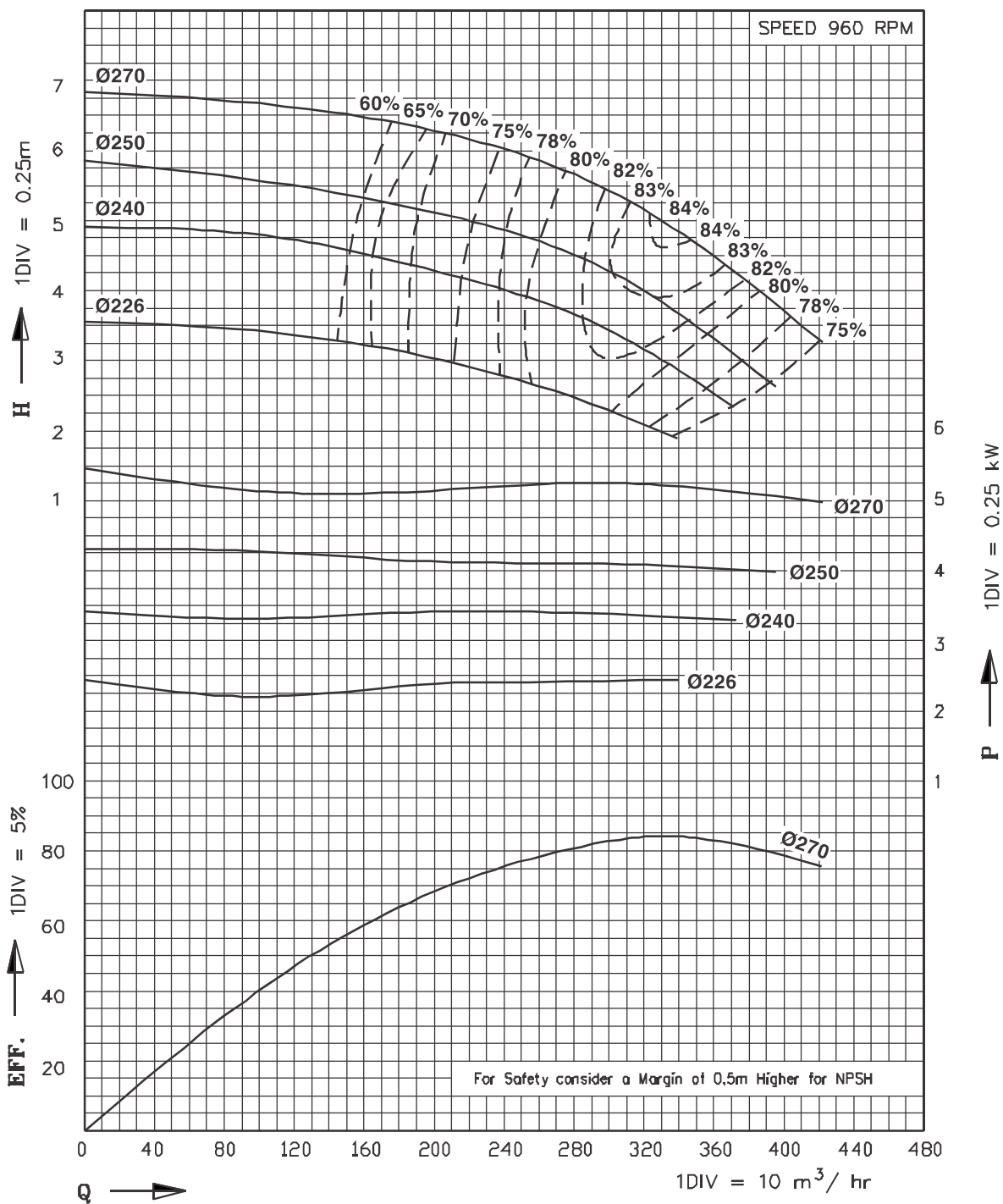


## PERFORMANCE CURVE

Model : ECM-250/270

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 200 x 250



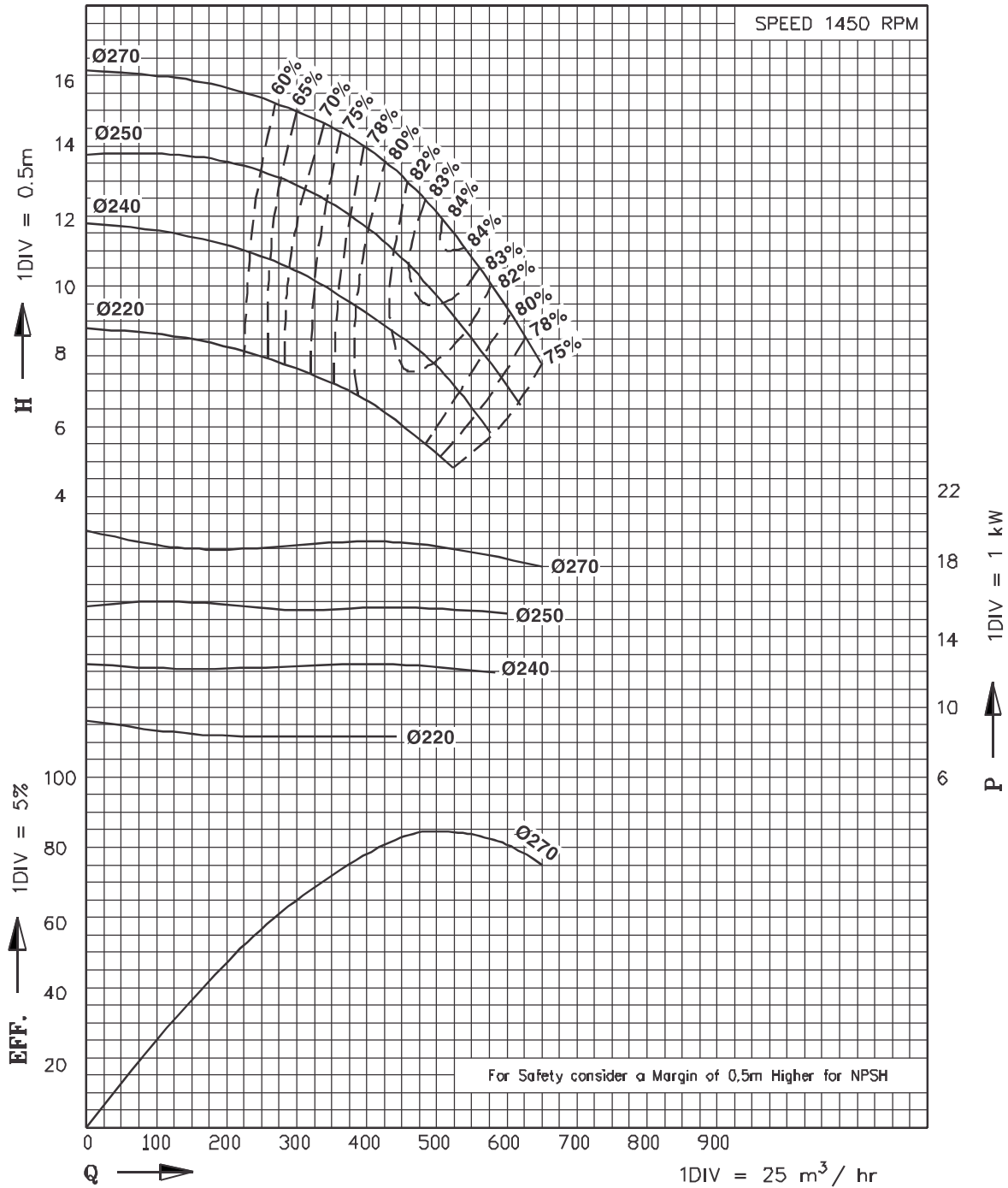


## PERFORMANCE CURVE

Model : ECM-250/270

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 200 x 250



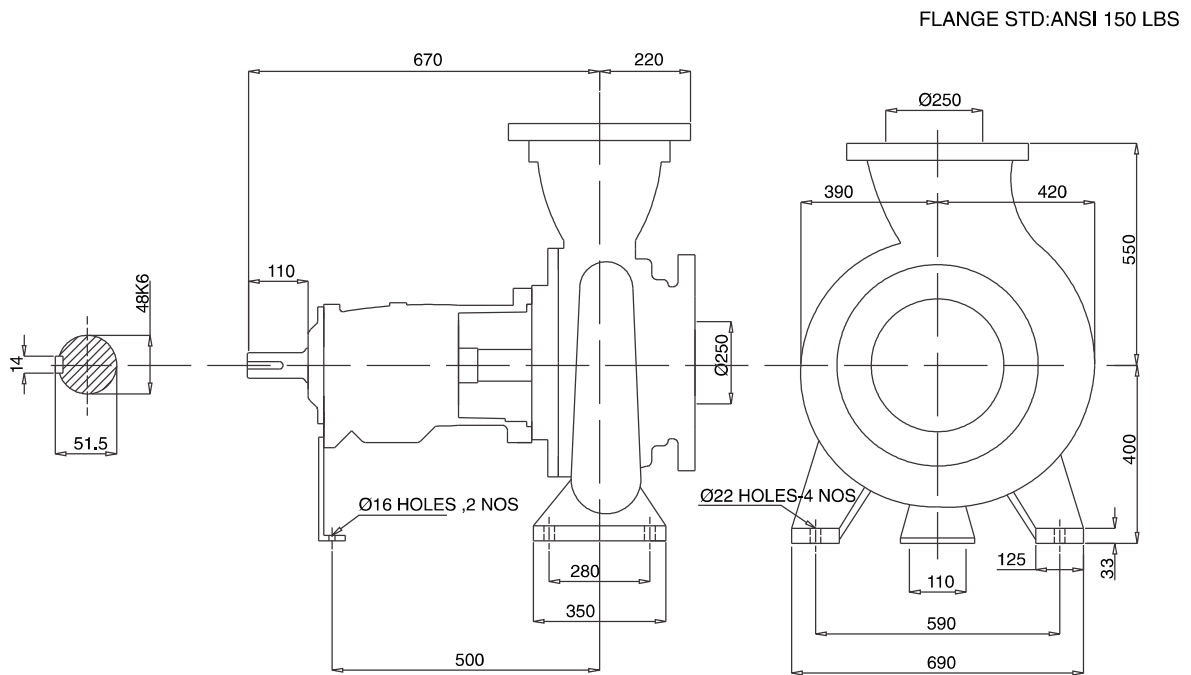


# OVERALL DIMENSIONAL DRAWING

Model : ECM-250/320

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 250 x 250



DIRECTION OF ROTATION : CLOCK WISE FROM DRIVE END

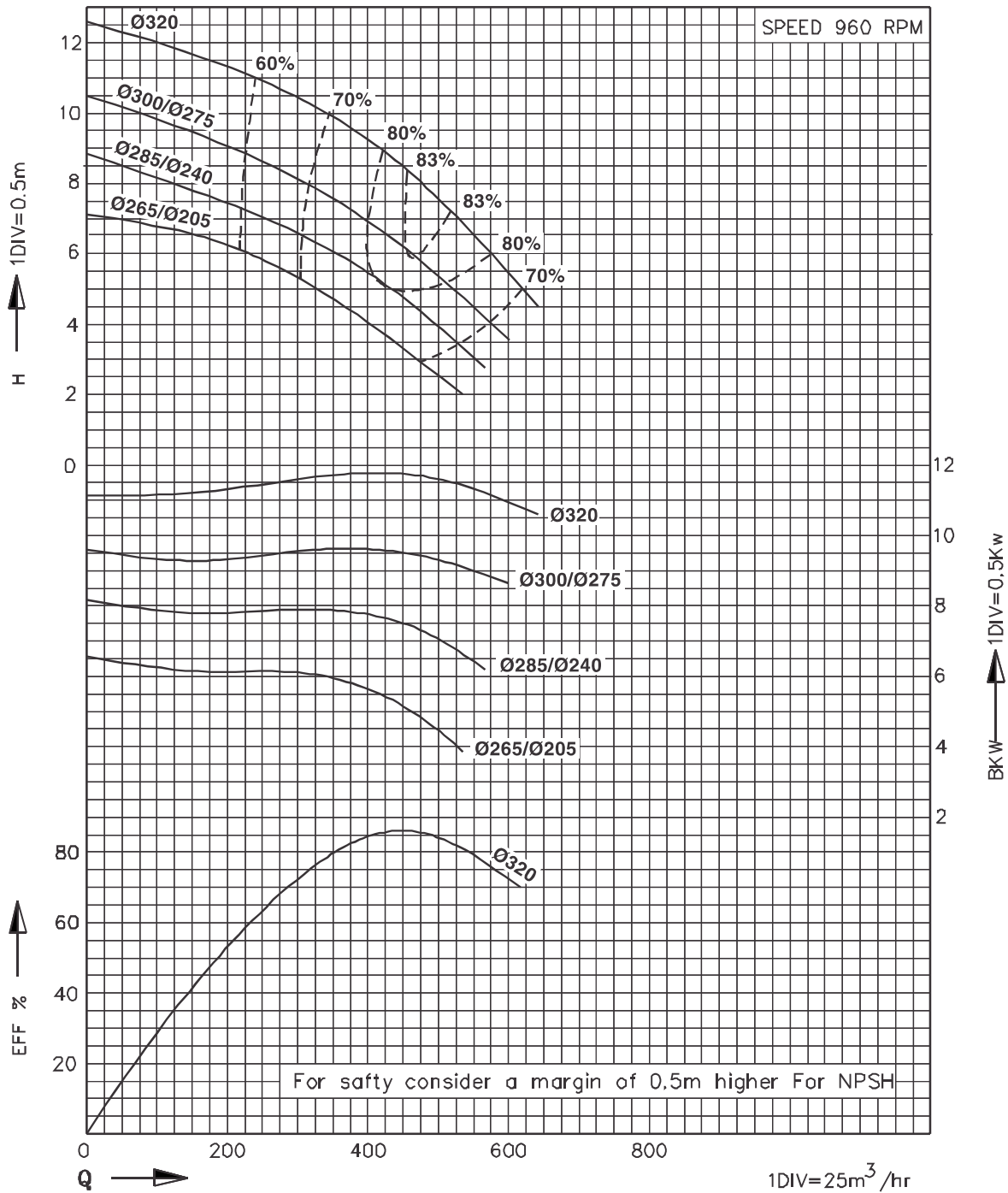


## PERFORMANCE CURVE

Model : ECM-250/320

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 250 x 250



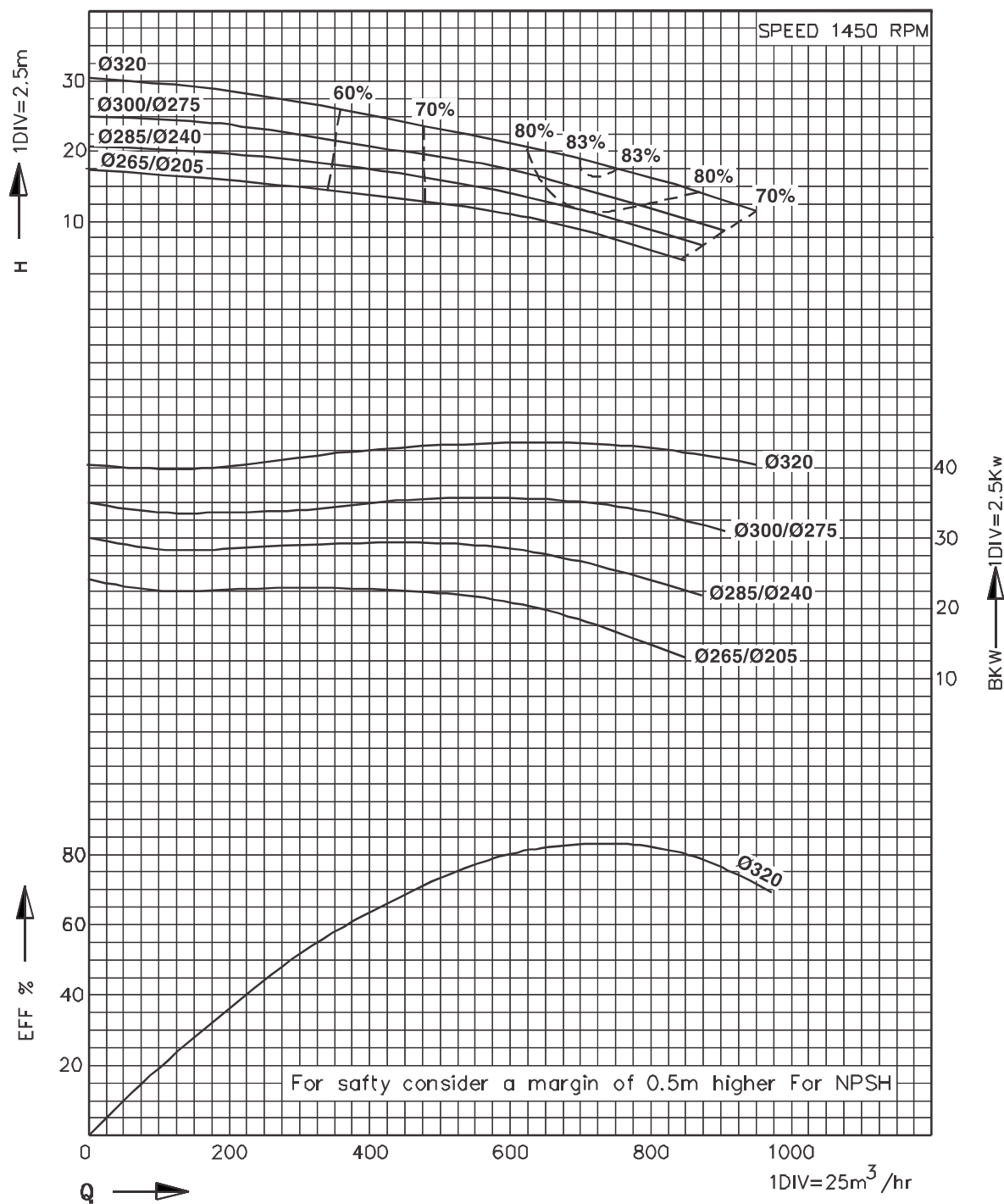


## PERFORMANCE CURVE

Model : ECM-250/320

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 250 x 250





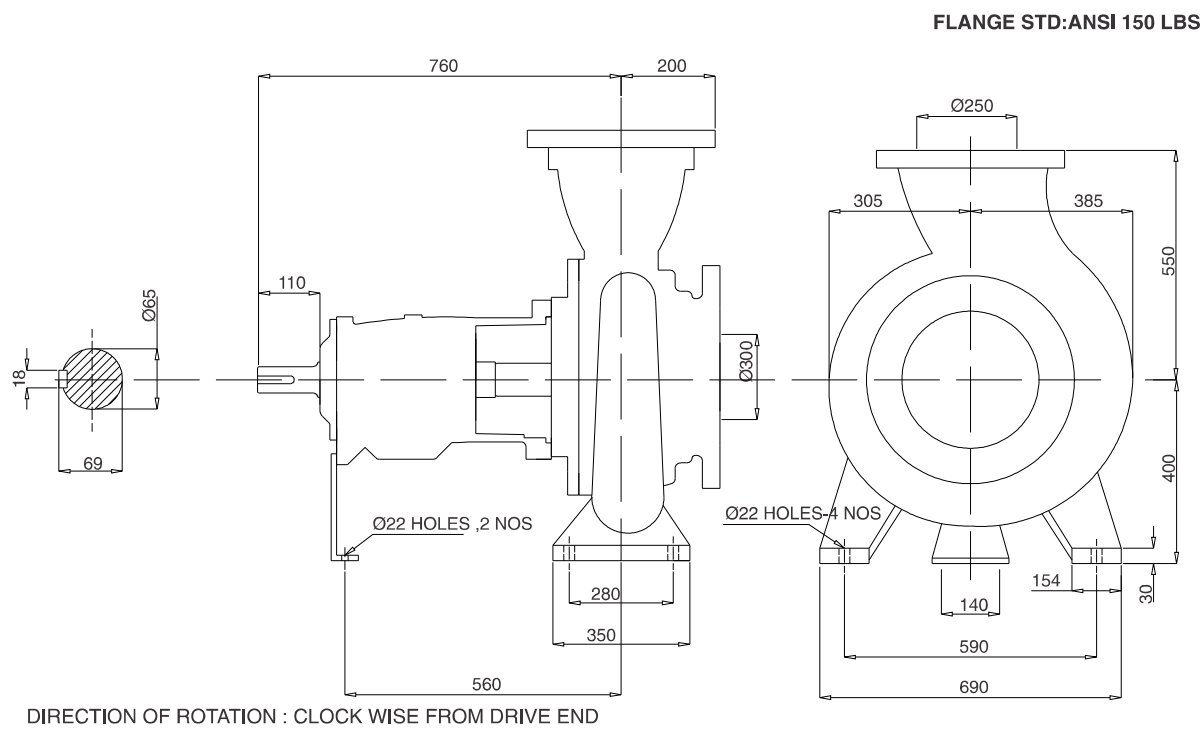


OVERALL DIMENSIONAL DRAWING

Model : ECM-250/400

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 300 x 250



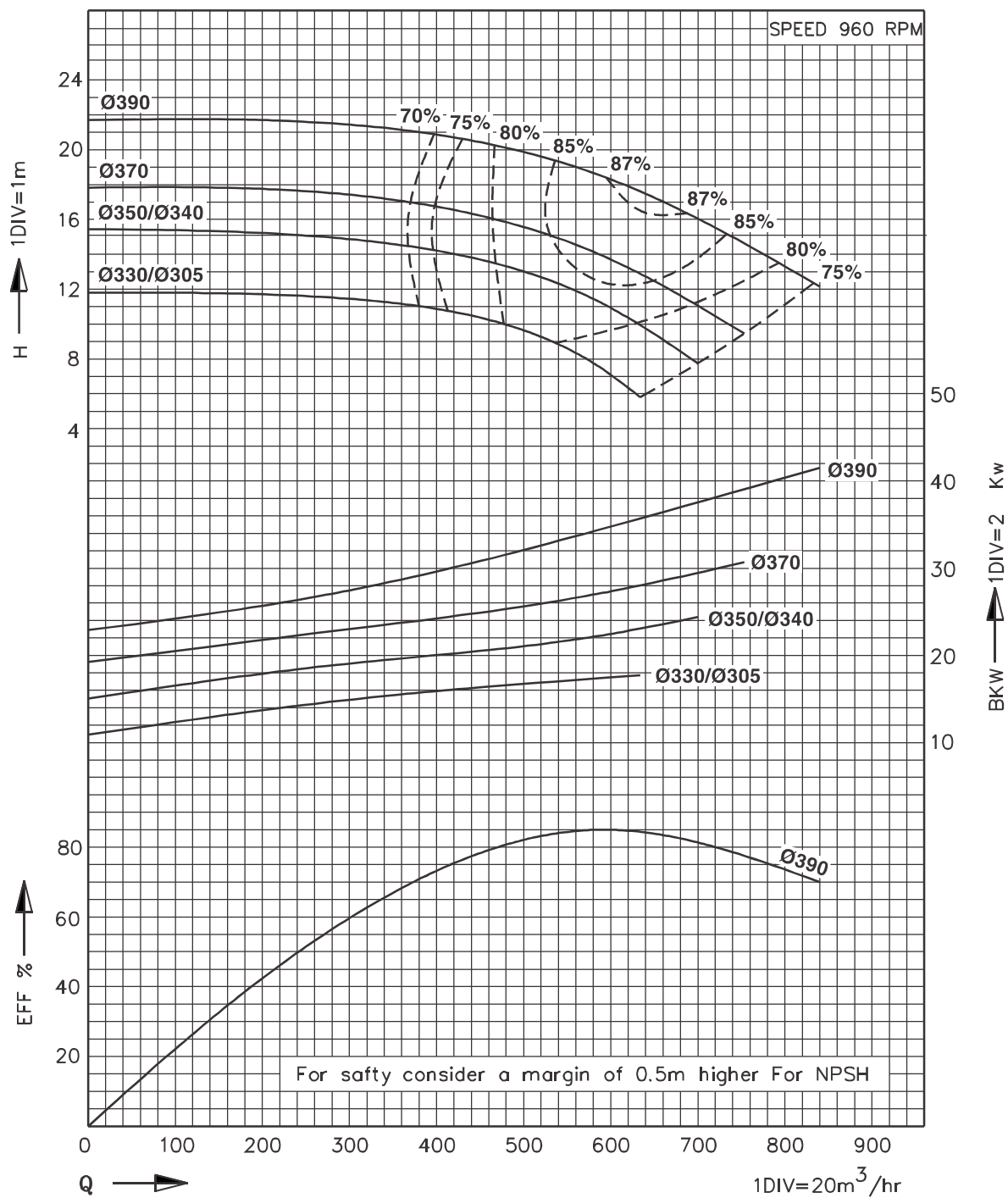


## PERFORMANCE CURVE

Model : ECM-250/400

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 300 x 250



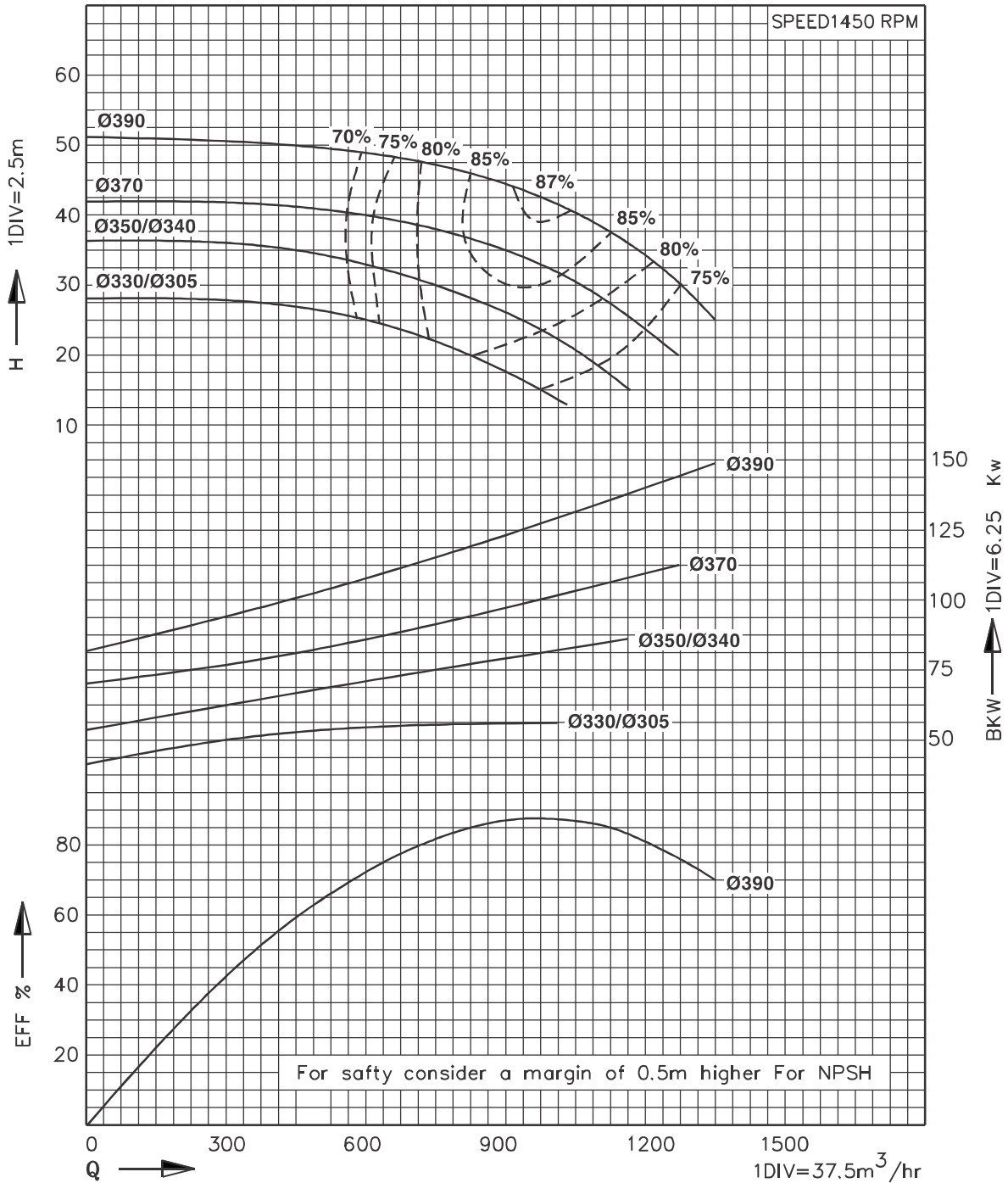


## PERFORMANCE CURVE

Model : ECM-250/400

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 300 x 250





**Note : Performance curve are as per specific gravity and viscosity of water.**

SIZE : 300 x 300

DIRECTION OF ROTATION : CLOCK WISE FROM DRIVE END

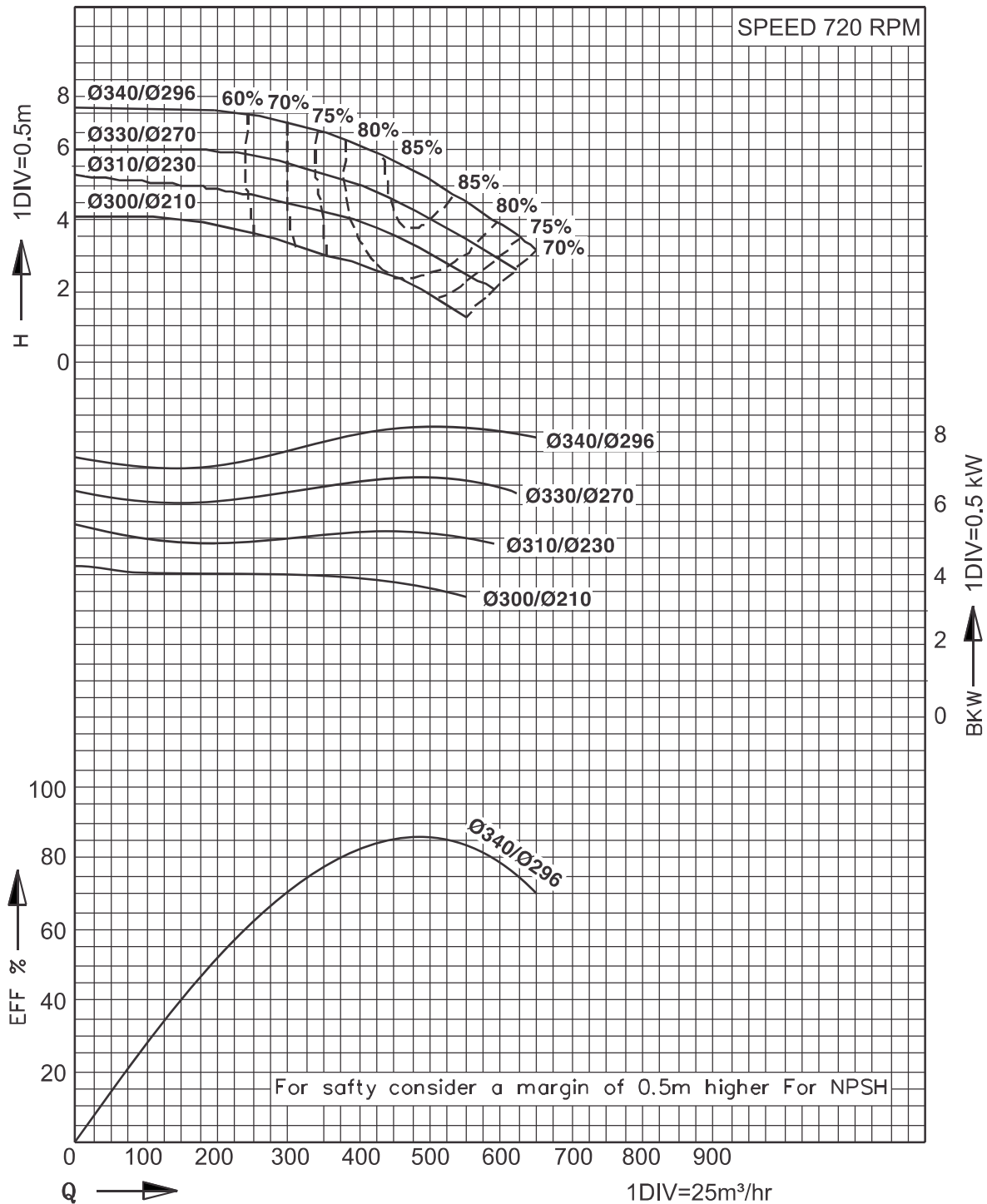


## PERFORMANCE CURVE

Model : ECM-300/320

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 300 x 300



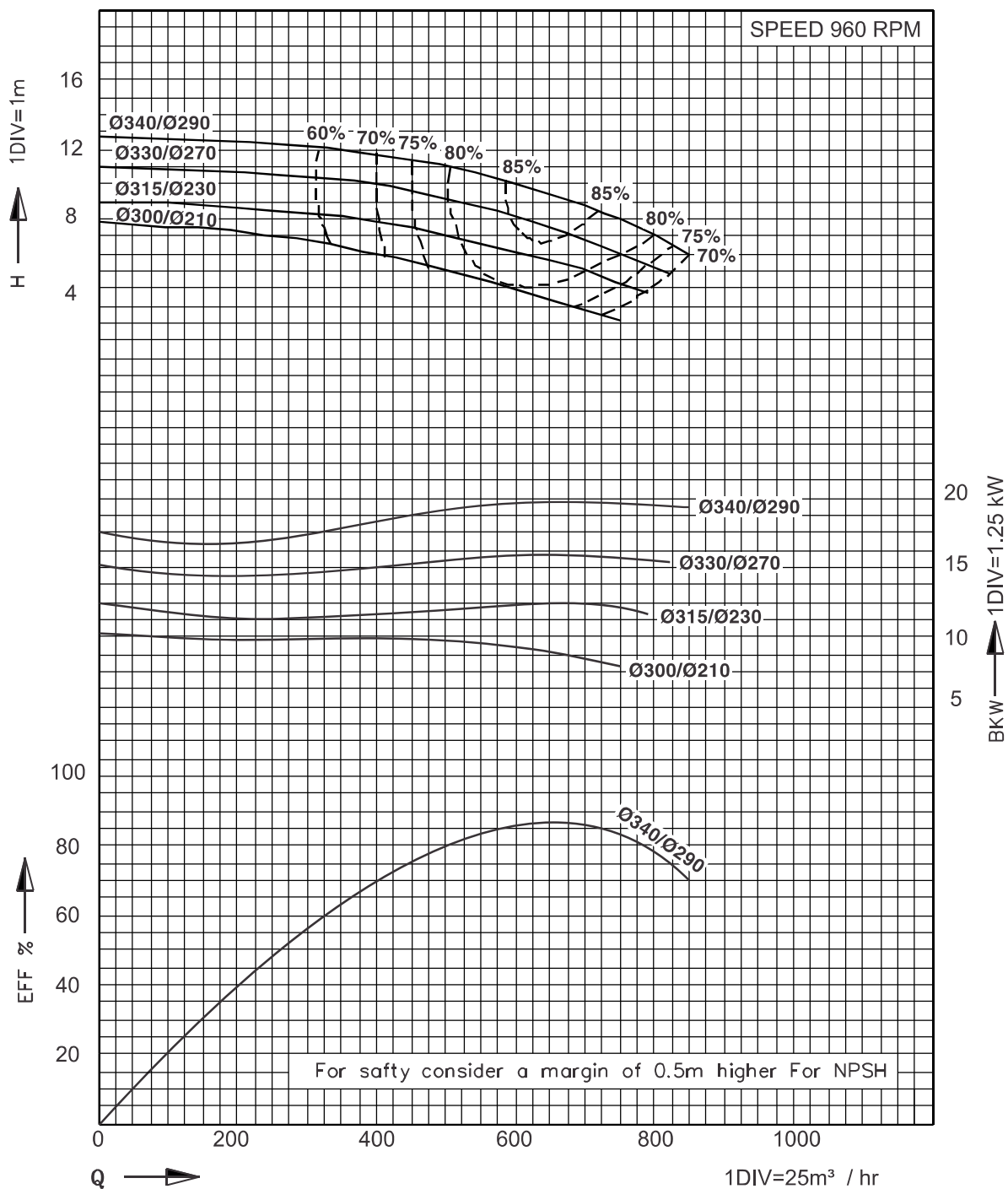


## PERFORMANCE CURVE

Model : ECM-300/320

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 300 x 300



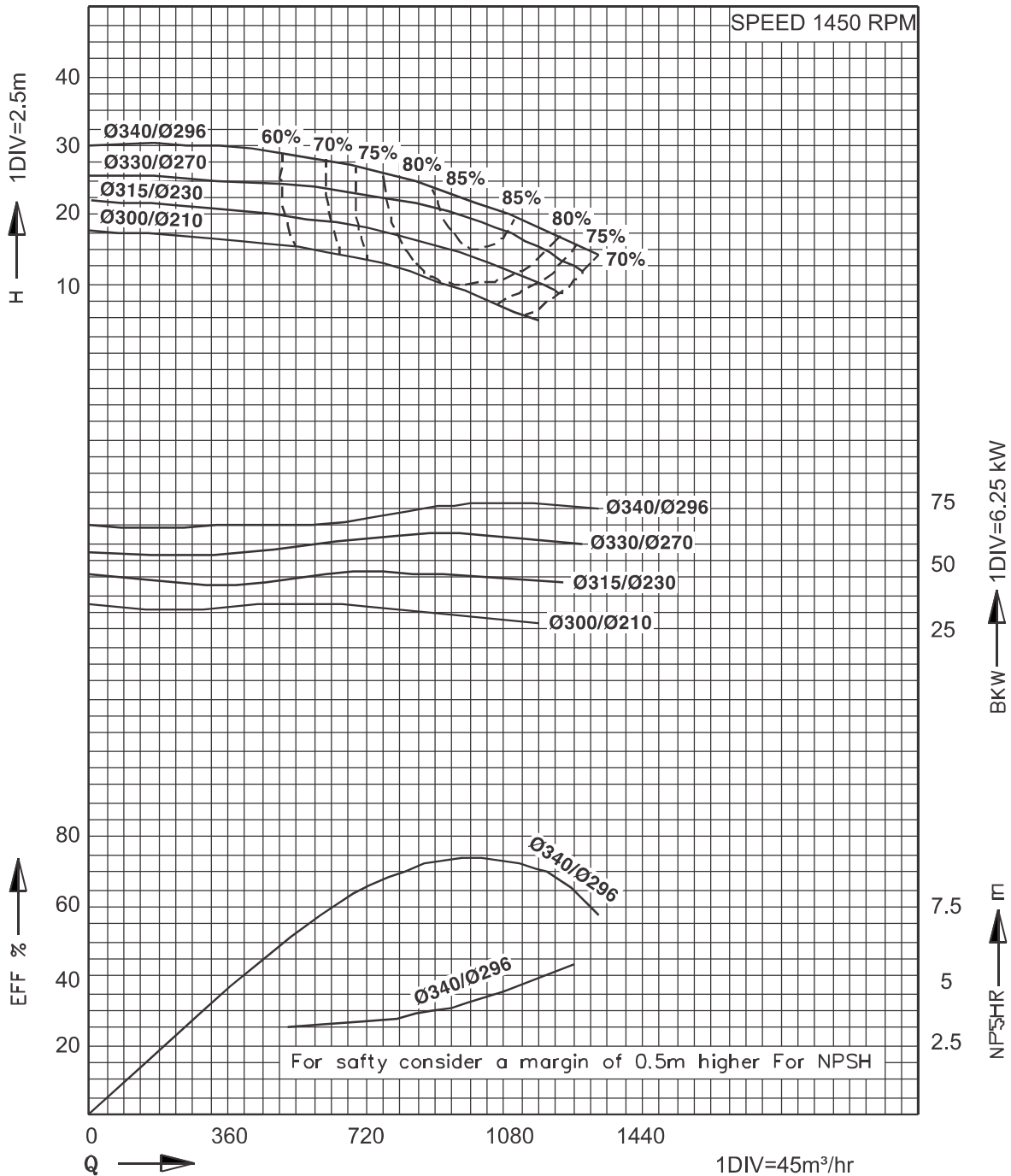


## PERFORMANCE CURVE

Model : ECM-300/320

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 300 x 300





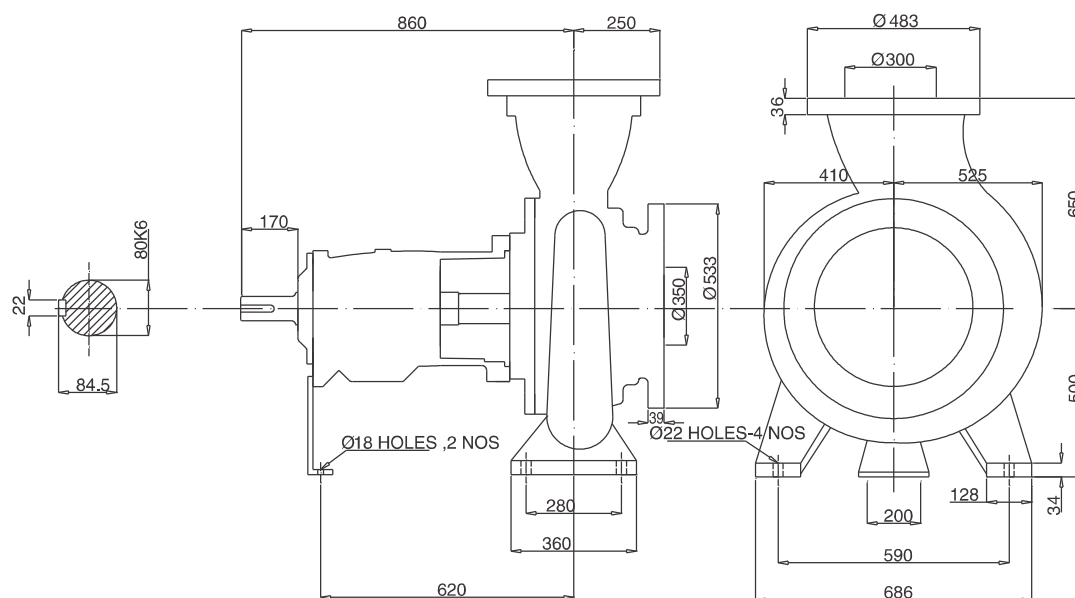
## OVERALL DIMENSIONAL DRAWING

Model : **ECM-300/400**

**Note : Performance curve are as per specific gravity and viscosity of water.**

SIZE : 350 x 300

FLANGE STD:ANSI 150 LBS



DIRECTION OF ROTATION : CLOCK WISE FROM DRIVE END



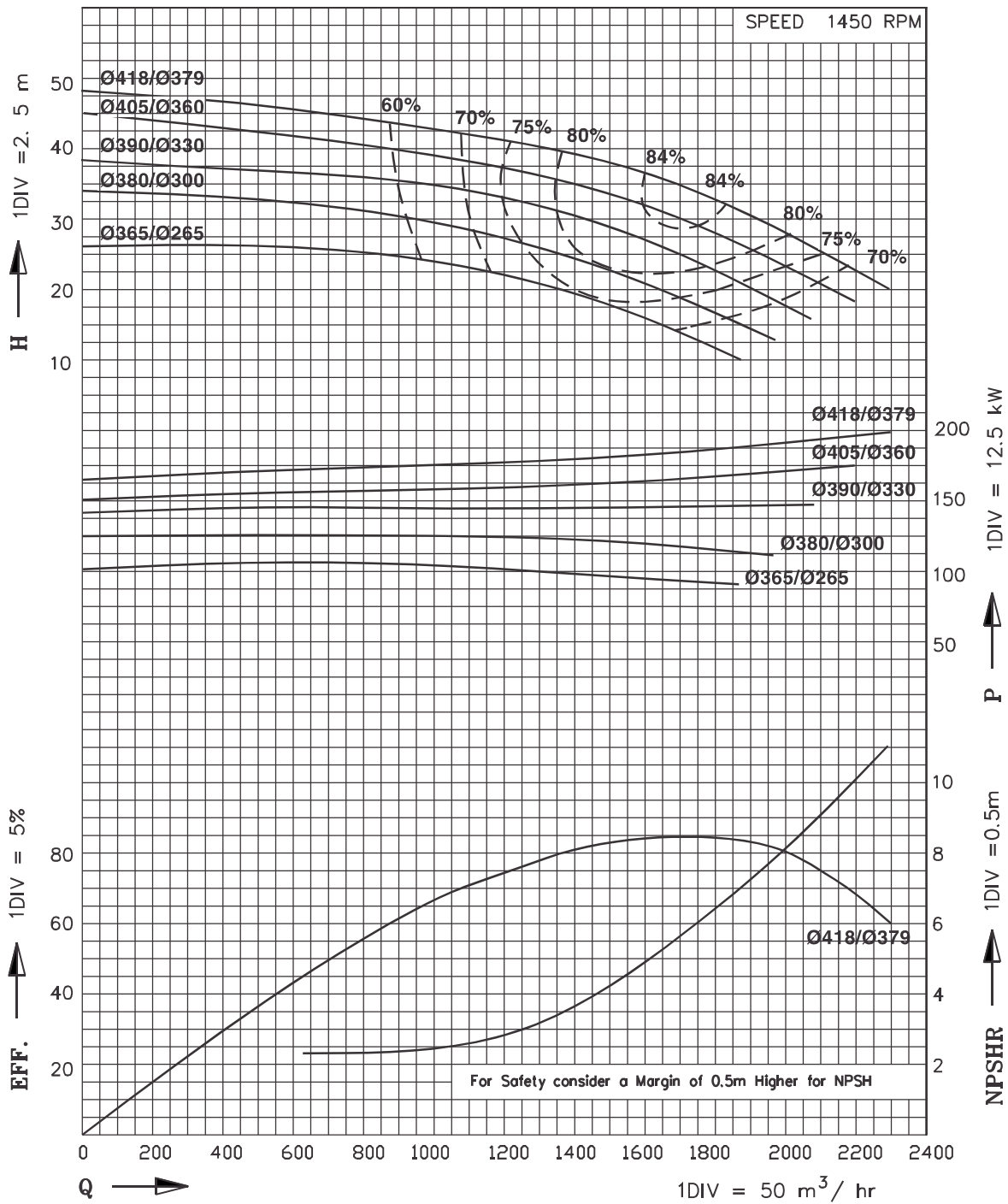


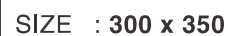
## PERFORMANCE CURVE

Model : ECM-300/400

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 350 x 300





Model : **ECM-350/400**

SIZE : 300 x 350



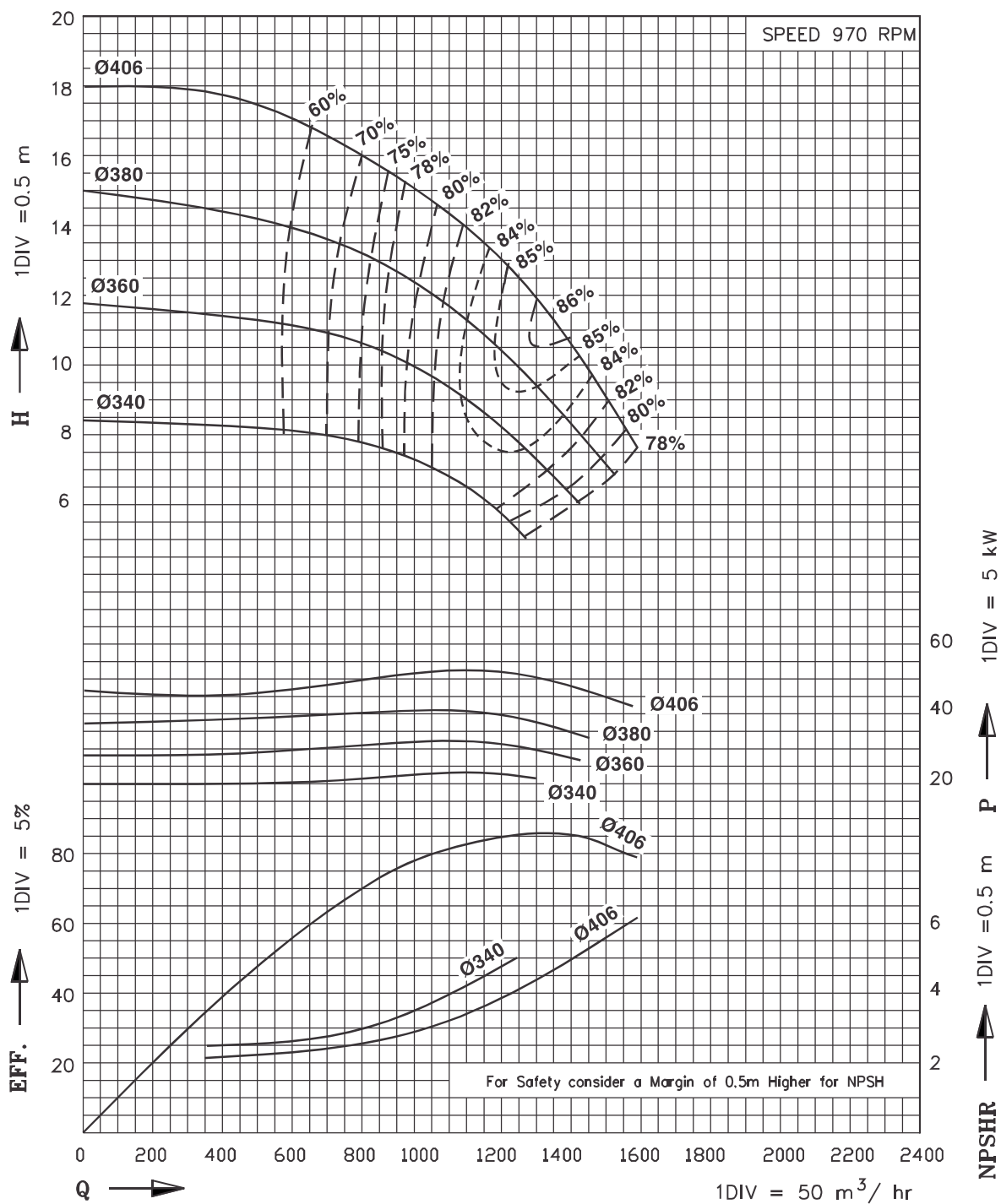


## PERFORMANCE CURVE

Model : ECM-350/400

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 300 x 350



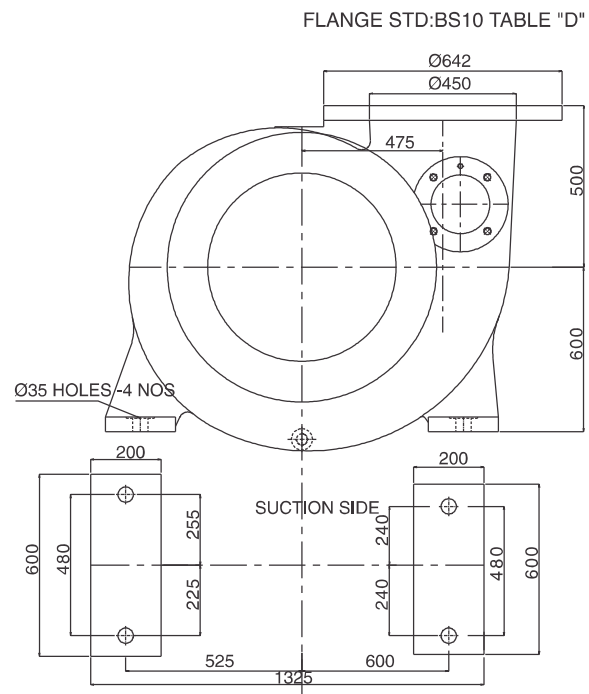
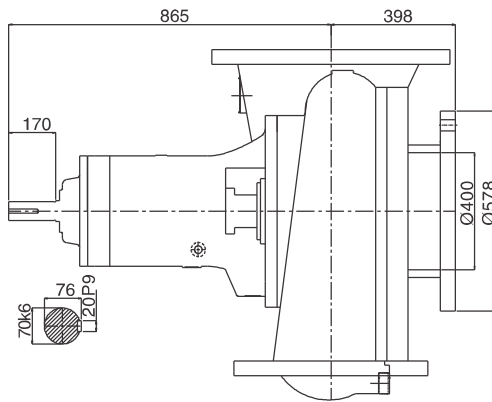


# OVERALL DIMENSIONAL DRAWING

Model : ECM-450/550

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 400 x 450



DIRECTION OF ROTATION: CLOCK WISE FROM DRIVE END

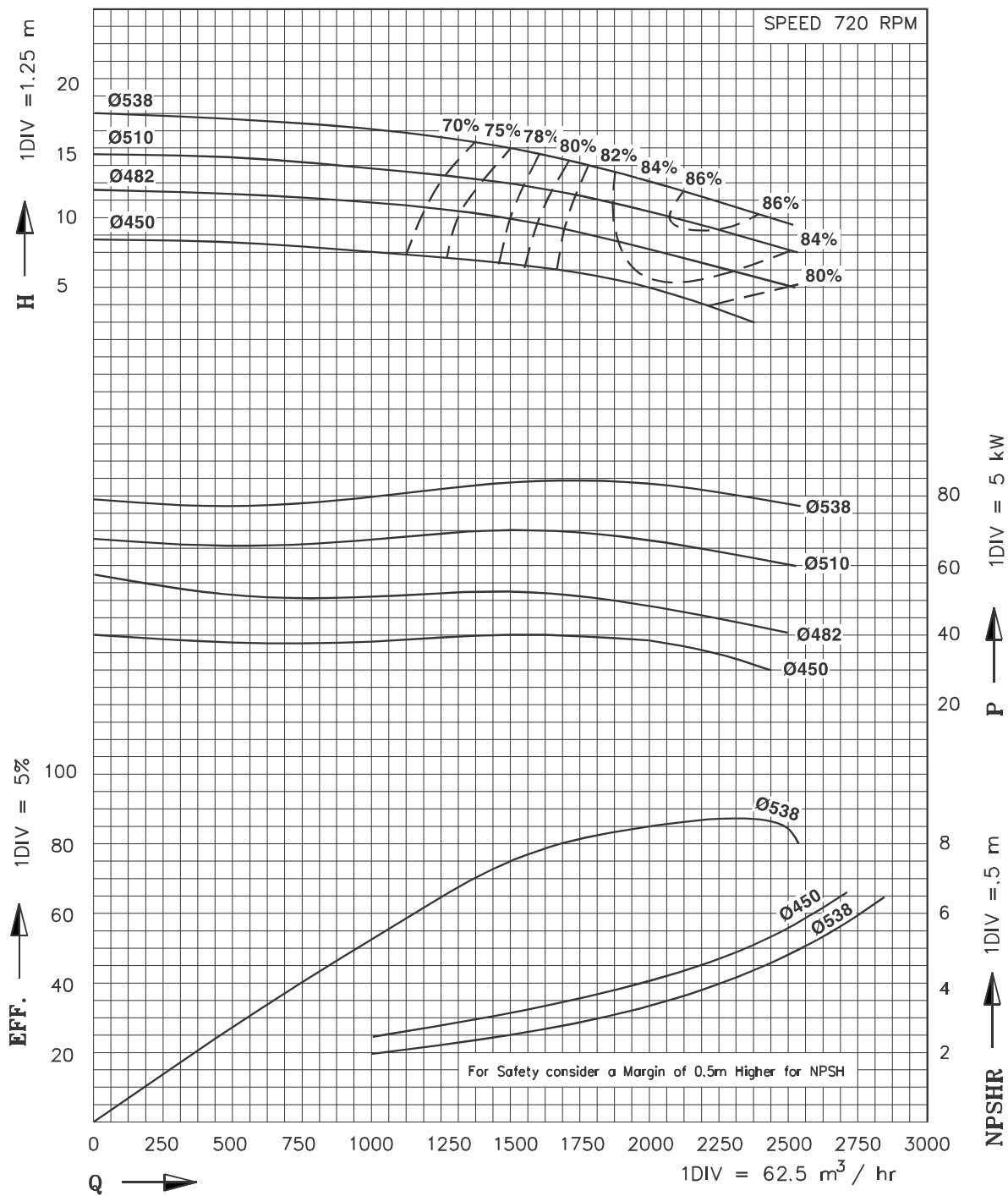


## PERFORMANCE CURVE

Model : ECM-450/550

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 400 x 450





## PERFORMANCE CURVE

Model : ECM-450/550

Note : Performance curve are as per specific gravity and viscosity of water.

SIZE : 400 x 450

