

B 9005 M D



Det Norske Veritas
MANAGEMENT SYSTEM
CERTIFICATE



Det Norske Veritas
MANAGEMENT SYSTEM
CERTIFICATE



Det Norske Veritas
MANAGEMENT SYSTEM
CERTIFICATE

KOSHA18001



HYOSUNG GOODSPRINGS

PUMPS
& WATER

수평 다단 터빈 펌프

HTM

Hyosung Turbine Type
Multi-Stage Pump



효성 굿스프링스(주)

본사 (121-804) 서울시 마포구 마포대로 137 KPX빌딩
창원공장 / R&D센터 (641-290) 경상남도 창원시 성산구 공단로 303
김해공장 (621-840) 경상남도 김해시 주촌면 골든루트로 158-20
Direct Contact C&I 영업팀 TEL : 82-2-3279-8253
A/S CENTER TEL : 82-1544-5580

TEL : 82-2-707-7000
TEL : 82-55-279-7607
TEL : 82-55-340-4407

FAX : 82-2-3279-8200
FAX : 82-55-281-0092



HYOSUNG GOODSPRINGS INC.

Head Office (121-804) KPX Bldg., 137 Mapodaero, Mapo-gu, Seoul, Korea
Changwon Plant / R&D Center (641-290) 303 Gongdanro, Seongsan-gu, Changwon-si, Gyeongnam, Korea
Gim-hae Plant (621-840) 158-20, Golden root-ro, Juchon-myeon, Gimhae-si, Gyeongnam, Korea
Direct Contact Commercial & Industrial Sales Team TEL : 82-2-3279-8253
Customer Service Center TEL : 82-1544-5580

TEL : 82-2-707-7000
TEL : 82-55-279-7607
TEL : 82-55-340-4407

FAX : 82-2-3279-8200
FAX : 82-55-281-0092



본 카탈로그에 기재된 제품은 예고없이 단종, 사양변동이 있을 수 있으므로 구입시 반드시 확인바랍니다. (2014.03)

This brochure does not contain all information and any warranty or guarantee of any kind. Also, all information herein is subject to change without notice.

용도 Application



특징 Features

- 소형 경량의 다단 터빈 고압 원심펌프로써 간단하고 독특한 설계와 우수한 제조기술로 높은 효율 발휘
 - 회전체의 동적해석(Rotor Dynamics) 및 구조물의 유한요소법(FEM) 해석을 통한 저진동, 저소음 구현
 - 주철케이싱(GC200)을 표준으로 적용. 충분한 두께로 내력 설계되어 고신뢰성, 경제적인 제품
 - 축추력을 상쇄시켜 고속회전에서도 안전하며, 고효율을 발휘할 수 있도록 설계
 - 표준화 및 시리즈화(Series)하여 부품의 호환성을 극대화시킨 구조
 - 고객의 다양한 요구사항에 대응하는 경제적인 펌프 선택 가능
- Compact and lightweight high pressure multi-stage centrifugal pump through excellent manufacturing technology, simple and unique design for high efficiency
 - Low vibration and noise through Rotor Dynamic and FEM analysis
 - Highly reliable and economic product applying standardized cast iron casing (GC200)
 - Offsetting axial thrust force for safe and high efficiency design in a high speed rotating condition
 - Standardization with high compatible of component
 - Economic pump selection to meet customer's various requirements

호칭 Model Designation

HTM80/4F

펌프 모델명
HTM
Model Name

토출구경
80
Discharge Diameter [mm]

단수 [회전차수]
4
Number of Stages [Number of Impellers]

소방용 특화
F
Firefighting Type

표준 사양 Standard Specification

취급액	Applicable Liquid		청수 Clean Water (pH 5.8 ~ 8.6) 0 ~ 90℃
유량 / 양정	Capacity / Head		3 ~ 500 m³/h / 10 ~ 380 m
구경	Diameter		32 ~ 150 mm
회전방향	Rotation Direction		CW (구동기 측에서 펌프를 바라보았을 때) (From the Motor Side to the Pump)
구조 Structure	회전차	Impeller	클로즈형 Closed Type
	축봉	Shaft Seal	Packing (테프론 함침 탄화섬유) (Carbonized fibers impregnated with Teflon)
	베어링	Bearing	Ball Bearing, Roller Bearing
플랜지 Flanges	흡입	Suction	KS B 1511 10K, RF, SIDE
	토출	Discharge	KS B 1511 20K, RF, TOP
카플링 Coupling	45kW 이하	Below 45kW	물림형 카플링 Jaw Coupling
	55kW 이상	Above 55kW	플랜지 카플링 Flange Coupling
재질 Material	흡입, 토출케이싱	Suc. & Dis. Casing	GC200 (Option : SSC13, etc)
	중간케이싱	Middle Casing	GC200 (Option : SSC13, etc)
	회전차	Impeller	GC200 (Option : CAC406, SSC13, etc)
	축	Shaft	SM45C (Option : STS304, etc)

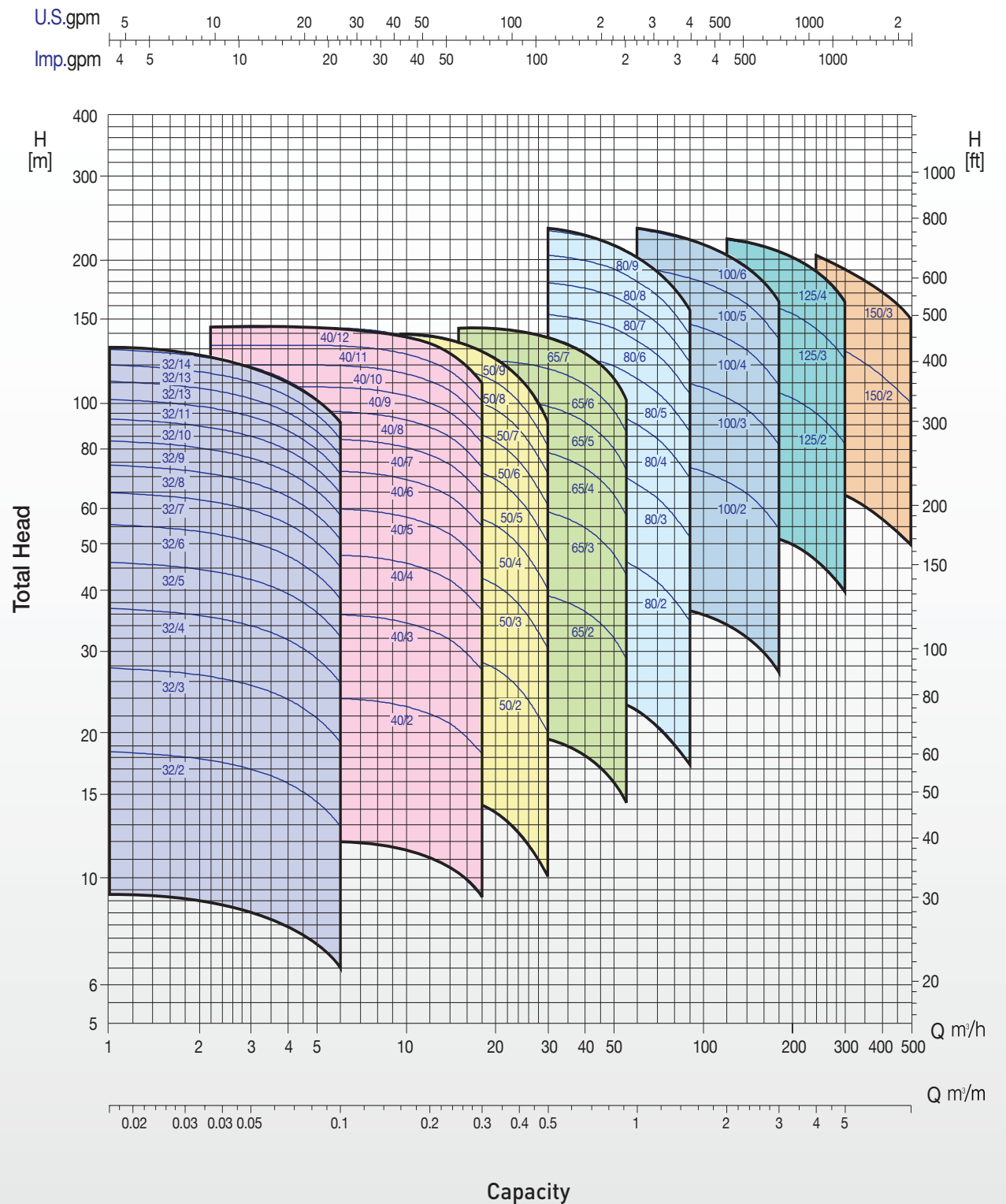
선택사양 Option

- 접액부 재질 (조립단면도 선택사양 참고)
- 전동기 형식 (요구사항)
- 축봉장치 (요구사항)
- 커플링 (요구사항)
- 각종 계기류, Drain/Vent 배관 구성
- 흡·토출 플랜지 방향 및 규격 (별도 문의요망)
- 도장사양 (요구사항)
- Material of the Liquid Contacting Part (Refer to the Specifications in the Sectional Drawing)
- Motor Type (Requirement)
- Shaft Seal (Requirement)
- Coupling (Requirement)
- Instrument, Drain/Vent Piping
- Suction, Discharge Flange Direction and Specification (Contact us)
- Painting (Requirement)

※ GC200 : Cast Iron / CAC406 : Cast Bronze / SSC13 : Stainless Steel Casting
※ SM45C : Carbon Steel / STS304 : Stainless Steel

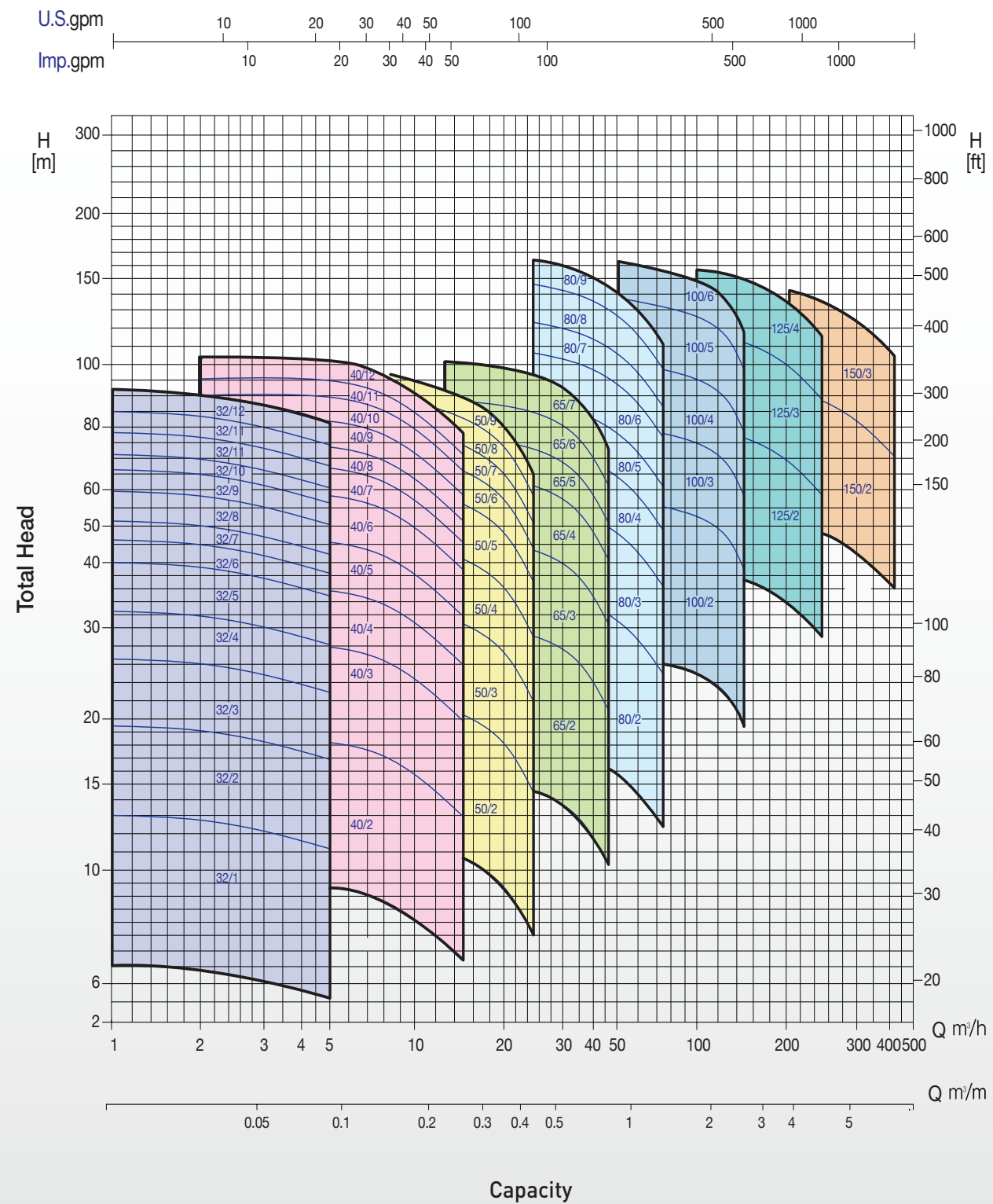
선정도 Selection Chart

60Hz (1750RPM)

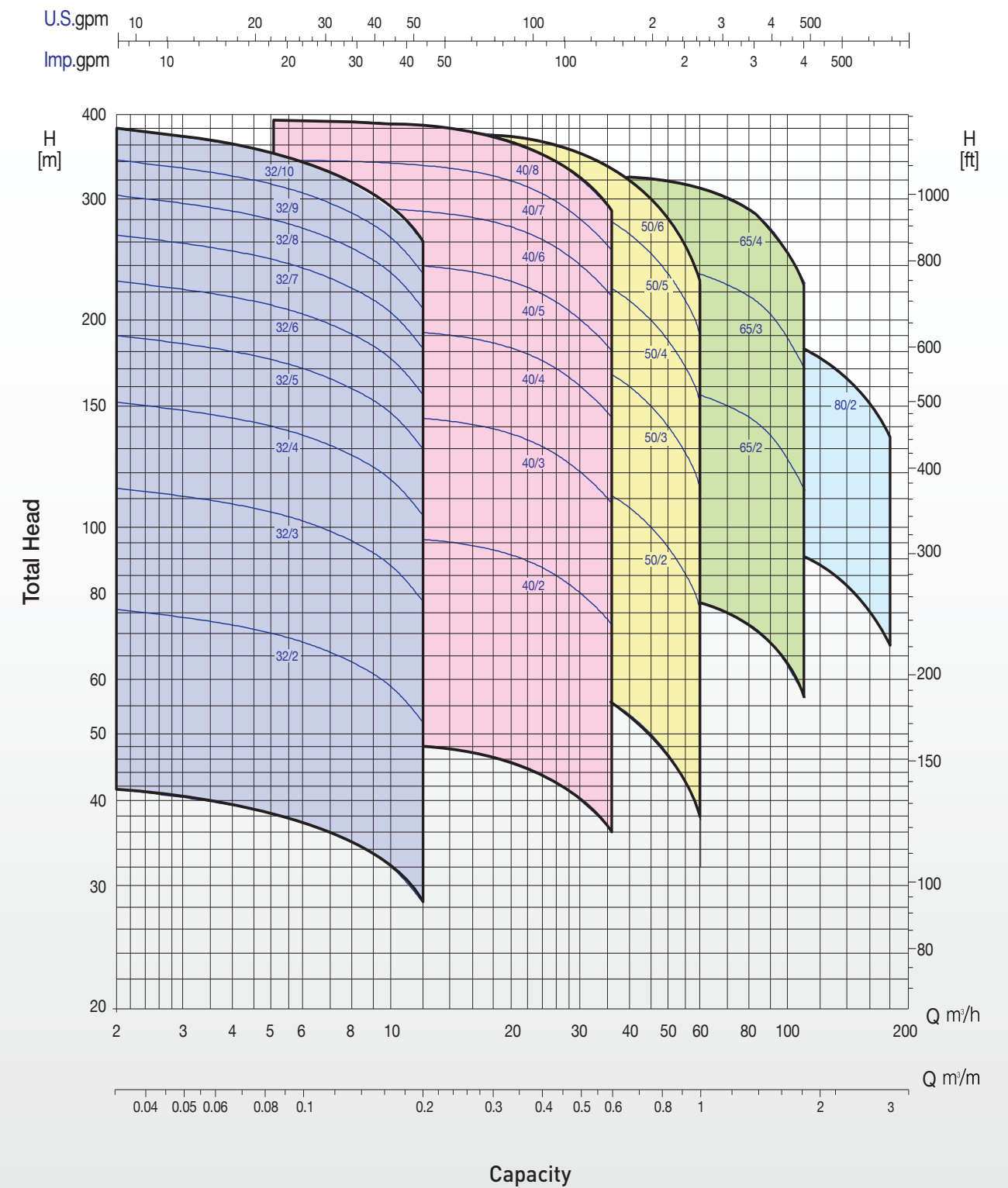


선택도 Selection Chart

50Hz (1450RPM)

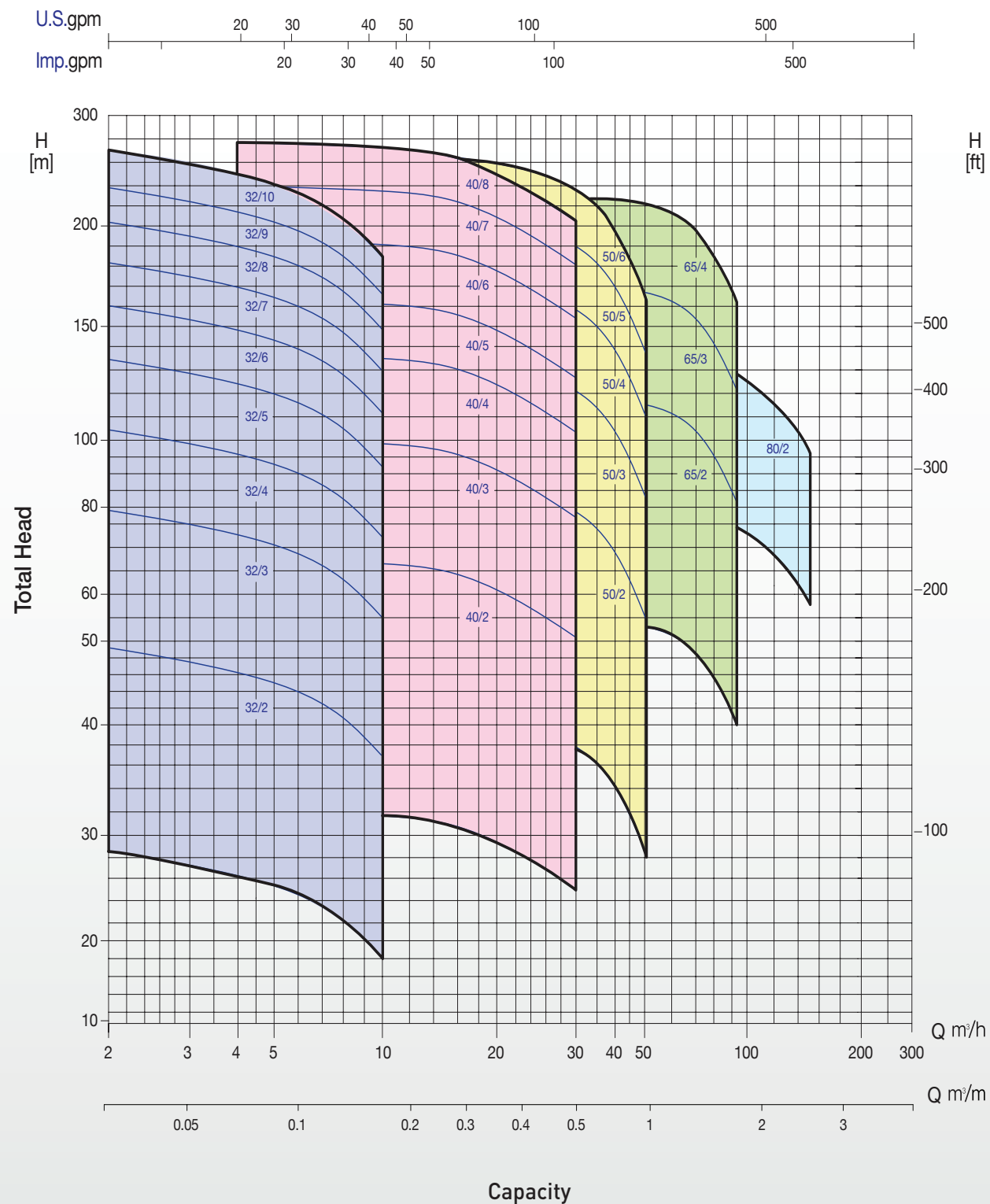


60Hz (3500RPM)



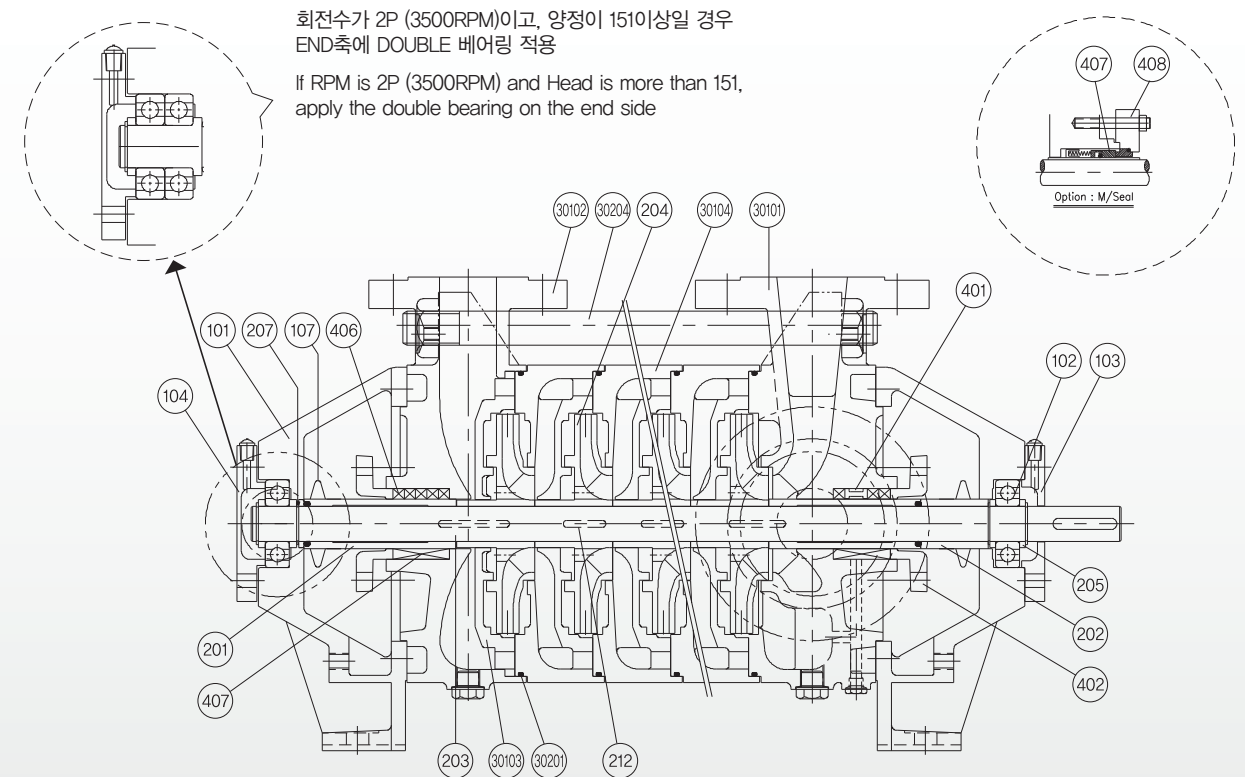
선택도 Selection Chart

50Hz (3000RPM)



조립 단면도 Sectional Drawing

[HTM32/40/50/65]



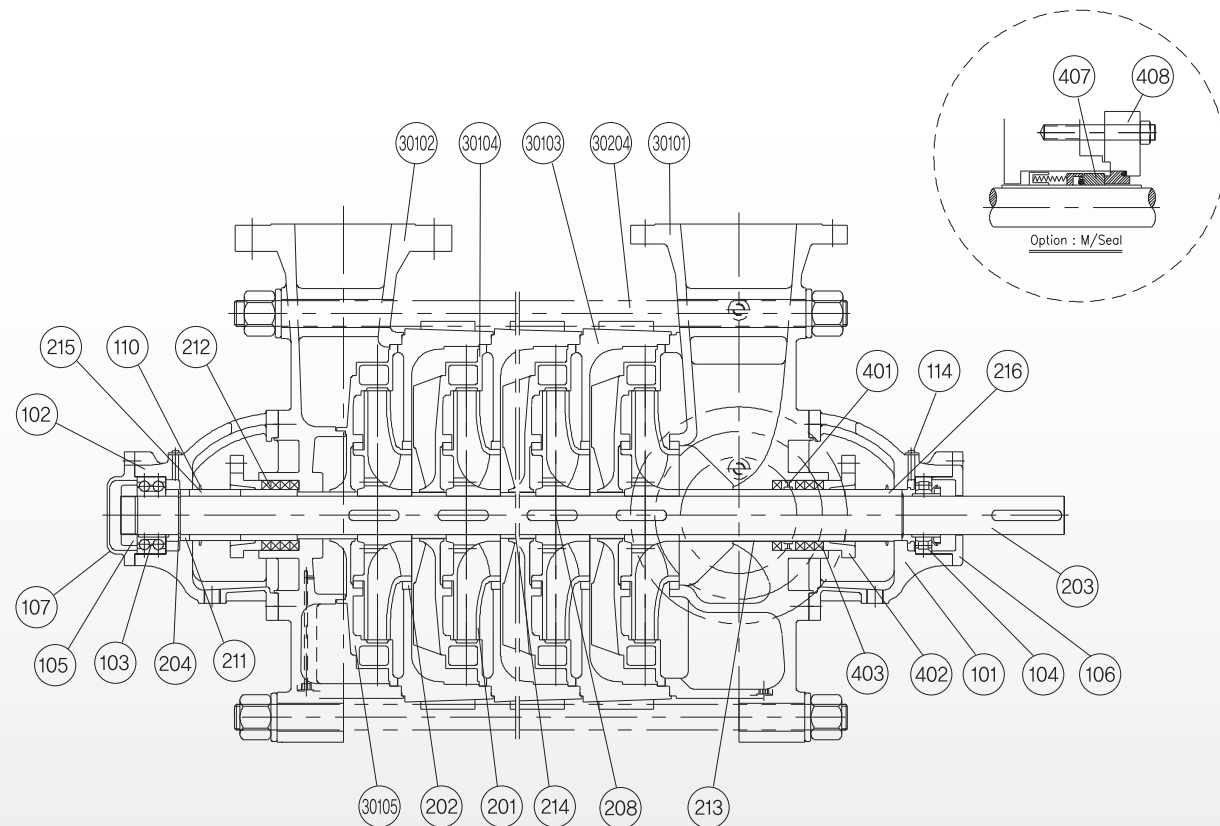
※ 2P 제작 가능 모델 2P-applicable Model
: HTM32, HTM40, HTM50, HTM65, HTM80

부품번호 Part No.	부품명 Part Name	표준재질 Material	선택사양 Option	부품번호 Part No.	부품명 Part Name	표준재질 Material	선택사양 Option
101	Bearing Housing	GC200	—	30101	Suction Casing	GC200	SSC13
102	Ball Bearing	Steel	—	30102	Discharge Casing	GC200	SSC13
130/104	Bearing Cover	GC200	—	30103	Diffuser	GC200	SSC13
107	Thrower	Rubber	—	30104	Stage Casing	GC200	SSC13
201	Shaft Sleeve	SM45C	STS304	30201	O-Ring	Rubber	SSC13
202	Spacer Sleeve	SM45C	STS304	30204	Tie-Bolt	SM25C	SSC13
203	Shaft	SM45C	STS304	401	Lantern Ring	GC200	STS304
204	Impeller	GC200/CAC406	SSC13	402	Packing Gland	GC200	SSC13
205	Spacer Ring	SM45C	—	406	Packing	P.T.F.E	Requirement
207	Stop Ring	SM25C	—	407	Mechanical Seal	SiC/Carbon	—
212	Key	SM55C	STS304	408	M/Seal Cover	GC200	SSC13

※ Part No. 407, 408 are applicable for M/Seal Option
※ P.T.F.E : Carbonized fibers impregnated with Teflon

조립 단면도 Sectional Drawing

[HTM80/100/125/150]



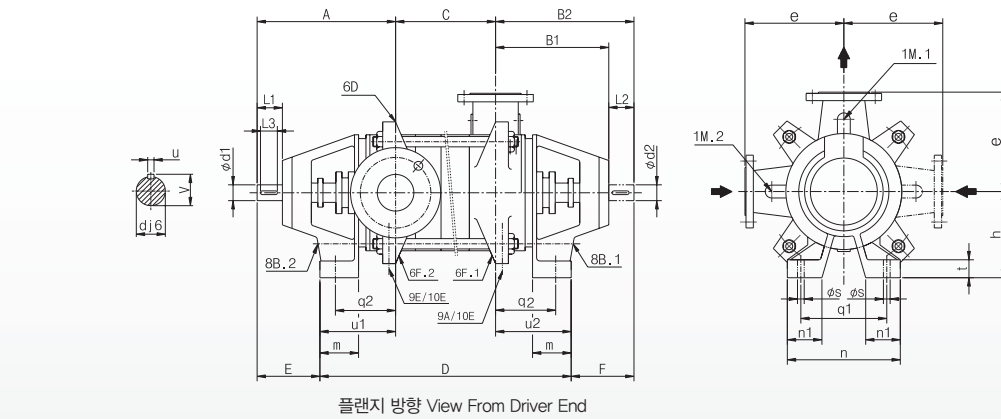
※ 2P 제작 가능 모델 2P-applicable Model
: HTM32, HTM40, HTM50, HTM65, HTM80

부품번호 Part No.	부품명 Part Name	표준재질 Material	선택사양 Option	부품번호 Part No.	부품명 Part Name	표준재질 Material	선택사양 Option
101/102	Bearing Housing	GC200	—	212/213	Shaft Sleeve	SM45C	STS304
103	Ball Bearing	Steel	—	215/216	Spacer Sleeve	SM45C	STS304
104	Roller Bearing	Steel	—	30101	Suction Casing	GC200	SSC13
105	Bearing Nut	GC200	—	30102	Discharge Casing	GC200	SSC13
106/107	Bearing Cover	GC200	—	30103	Stage Casing	GC200	SSC13
110	Thrower	Rubber	—	30104	Diffuser	GC200	SSC13
114	Grease Nipple	CAC406	—	30105	Diffuser-L	GC200	SSC13
201	Impeller	GC200	SSC13	30204	Tie-Bolt	SM25C	—
202	Casing Ring	GC200	SSC13	401	Lantern Ring	Acetal	STS304
203	Shaft	SM45C	STS304	402	Packing Gland	GC200	SSC13
204	Stop Ring	SS400	—	403	Packing	P.T.F.E	Requirement
208	Key	SM55C	STS304	407	Mechanical Seal	SiC/Carbon	Requirement

※ Part No. 407, 408 are applicable for M/Seal Option
※ P.T.F.E : Carbonized fibers impregnated with Teflon

외형도 & 외형 치수표 Outline Drawing & Dimension

[HTM 32~65]



※ 주의
1. 표준 플랜지 방향
• 흡입측 : No. 3 오른쪽 수평방향
• 토출측 : No. 1 수직방향 (TOP)
2. 비표준 플랜지는 별도 제작하며
가격 추가 및 제작기간 별도 고려

※ Note
1. Standard Flange Direction
• Suction : No. 3 right horizontal
• Discharge : No. 1 vertical (top)
2. Non-standard flanges can be manufactured.
Additional costs and periods should be considered

Unit : mm

Type	흡입 구경 Suc.	토출 구경 Dis.	Pump Dimension																Shaft Dimension							
			A	B1	B2 ¹⁾	D	E	F	e	h	m	n	n1	q1	q2	s	t	u1	u2	d1 j6	d2 j6	L1	L2	L3	v	u
32	40	32	242	170	242	C+200	142	142	152	132	60	186	65	136	75	14	14	100	100	25	25	71	71	45	28	8
40	50	40	231	161	231	C+208	127	127	174	160	60	224	65	175	80	14	14	104	104	25	25	69	69	45	28	8
50	65	50	240	173	240	C+224	128	128	190	160	60	250	65	200	86	14	15	112	112	30	30	69	69	50	33	8
65	80	65	257	193	257	C+236	139	139	215	180	60	290	75	240	93	14	16	118	118	35	35	69	69	50	38	10

1) Both Side Shaft Pump

Unit : mm

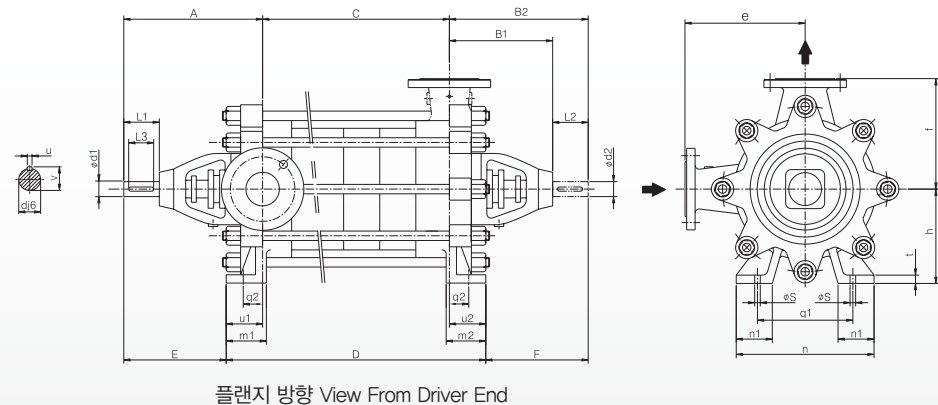
Type	흡입 구경 Suc.	토출 구경 Dis.	단수에 따른 치수 "C" Dimension "C" by No. of Stages													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
32	40	32	70	113	156	199	242	285	328	371	414	457	500	543	586	629
40	50	40	78	133	188	243	298	353	408	463	518	573	628	683		
50	65	50	89	151	213	275	337	399	461	523	585					
65	80	65	109	180	251	322	393	464	535							

Unit : kg

Type	흡입 구경 Suc.	토출 구경 Dis.	단수에 따른 펌프 무게 Pump Weight by No. of Stages													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
32	40	32	42	47	52	57	62	67	72	77	82	87	92	97	102	107
40	50	40	63	72	81	90	99	108	117	126	135	144	153	162		
50	65	50	85	98	111	124	137	150	163	176	189					
65	80	65	113	132	151	170	189	208	227							

외형도 & 외형 치수표 Outline Drawing & Dimension

[HTM 80~150]



플랜지 방향 View From Driver End



흡입 및 토출 노즐(모터측에서 본)방향
The direction of suction and discharge nozzles
(From the Motor Side to the Pump)

※ 주의

- 표준 플랜지 방향
 - 흡입측 : No. 3 오른쪽 수평방향
 - 토출측 : No. 1 수직방향 (TOP)
- 비표준 플랜지는 별도 제작하며
가격 추가 및 제작기간 별도 고려

※ Note

- Standard Flange Direction
 - Suction : No. 3 right horizontal
 - Discharge : No. 1 vertical (top)
- Non-standard flanges can be manufactured.
Additional costs and periods should be considered

Unit : mm

Type	흡입 구경 Suc.	토출 구경 Dis.	Pump Dimension																Shaft Dimension							
			A	B1	B2 ¹⁾	D	E	F	e	h	m	n	n1	q1	q2	s	t	u1	u2	d1 j6	d2 j6	L1	L2	L3	v	u
80	100	80	320	250	335	C+120	260	275	265	210	60	370	70	310	40	15	14	60	60	40	35	85	85	75	43	12
100	125	100	360	275	380	C+140	290	310	300	250	75	440	80	370	45	15	14	70	70	45	40	95	95	80	48.5	14
125	150	125	420	300	440	C+170	335	355	375	300	85	550	95	46	51	20	18	85	85	50	45	125	125	90	53.5	14
150	200	150	490	355	500	C+200	390	400	425	350	100	650	100	550	65	23	18	100	100	60	48	140	140	90	64	18

1) Both Side Shaft Pump

Unit : mm

Type	흡입 구경 Suc.	토출 구경 Dis.	단수에 따른 치수 "C" Dimension "C" by No. of Stages									
			1	2	3	4	5	6	7	8	9	10
80	100	80	110	193	276	359	442	525	608	691	774	857
100	125	100	135	235	335	435	535	635	735	835		
125	150	125	165	280	395	510	625	740				
150	200	150	215	360	505	650	795					

Unit : kg

Type	흡입 구경 Suc.	토출 구경 Dis.	단수에 따른 펌프 무게 Pump Weight by No. of Stages									
			1	2	3	4	5	6	7	8	9	10
80	100	80	134	161	188	215	242	269	296	323	350	377
100	125	100	195	238	281	324	367	410	453	496		
125	150	125	320	390	460	530	600	670				
150	200	150	545	670	795	920	1,045					



HTM

Hyosung Turbine Type Multi-Stage Pump

Springs of Living Water