

# NGK Series

전자, 프랜트, 철강 업계적용 마그넷 펌프



NGK 25-1, NGK 25-2, NGK 25-3, NGK 25-4  
NGK 40-1, NGK 40-2, NGK 40-3, NGK 40-4  
NGK 50-1, NGK 50-2, NGK 50-3  
NGK 65-1, NGK 65-2, NGK 65-3  
NGK 80-1, NGK 80-2  
NGK 125  
NGF 80  
NGF 125

## ●○ 제품사양

- 적용온도범위 :  
-20 ~ 250°F (-29 ~ 121 °C)
- Flange 연결부 :  
ANSI Class 150  
ANSI Class 300  
ISO PN 16  
JIS 10kg/cm<sup>2</sup>
- 최고유량:  
NGK25, NGK40 (66.9 m<sup>3</sup>/hr)  
NGK65, NGK80 (159 m<sup>3</sup>/hr)  
NGK80-2, NGF80,  
NGF125 (340.7 m<sup>3</sup>/hr)
- 최고양정  
NGK25-1, NGK40-1, NGK50-1 (58.2m)  
NGK25-2, NGK40-2, NGK40-4, NGK50-2, NGK65-2, NGK80-2, NGK125 (93.2m)  
NGK50-3, NGK65-3, NGK80-3 (153m)
- 최고 토출압력  
300 psi (20.6 bar)
- 최고전력  
NGK25, NGK40 14hp (10.4kW)  
NGK65, NGK80 30hp (22.4kW)  
NGK80/2, NGF80, NGK125 100hp (74.6kW)

## ●○ 용도

- 적용분야  
금속분야 - 피클링, 에칭 도금  
수조차 하역, 스크라바 시스템  
화학공정, 원자로 공급  
염소알카리공정, 폐화학물 처리
- 적용가능 약액 :  
아세트산, 암모니아, 벤젠, 가성소다  
클로로술폰산, 크롬산, 염화제2철, 염산  
과산화수소, 메틸에틸케톤, 질산  
인산, 하이포아염소산나트륨, 황산

# The Benefits of Thrust Balancing

## 기압된 약액로

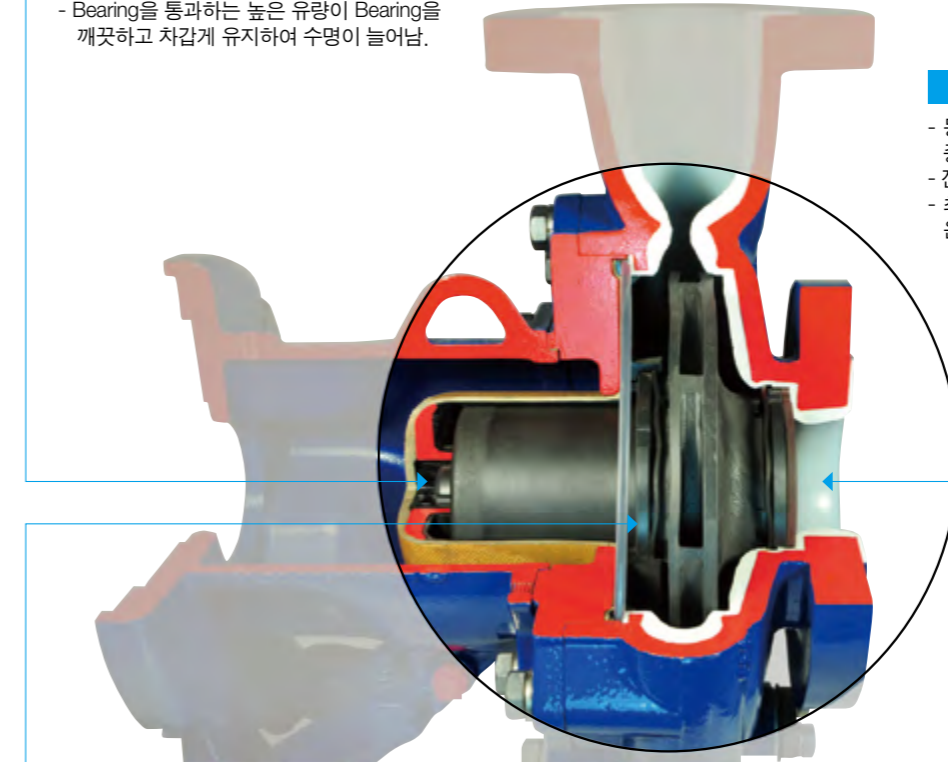
- Radial bearing에 flashing 불필요
- Bearing부의 약액 압력이 토출압력의 1/3
- 유막이 형성되어 Bearing 수명이 크게 증가
- 다루기 쉬운 낮은 증기압
- Bearing을 통과하는 높은 유량이 Bearing을 깨끗하고 차갑게 유지하여 수명이 늘어남.

## 이상운전상황에 대응

- Balance system이 이상운전 중의 하중을 크게 감소
- 경쟁사의 Thrust forward 디자인이 해결하지 못하는 흡입부족 상황에도 생존

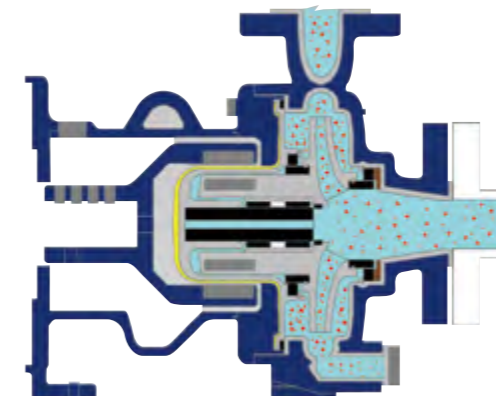
## 최적화된 케이싱

- 동심원으로 개조된 볼류트가 레디얼 하중을 최소화
- 전체 운전 영역에서 낮은 하중 유지.
- 최저 유량에서 최대 유량까지 지속적인 운전 보장



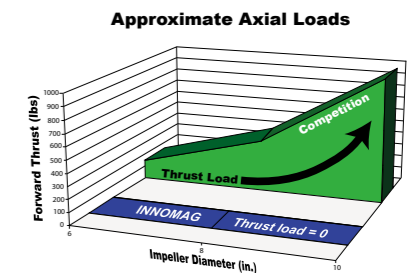
## WEAR RING

- 0.13mm 간격의 틈
- 절대 막힐 수 없음.
- 임펠러가 회전하는 동안, 약액이 유입되도록 틈이 열림



## SOLIDS HANDLING

- 임펠러 앞 뒤에 위치한 SiC Wear Ring이 0.13mm보다 큰 고체가 컨테인먼트셀로 유입되는 것을 막아줌.
- 청정약액만 Bearing과 펌프 샤프트에 도달할 수 있음



## HIGHER EFFICIENCY

- Thrust bearing 끌림 없음
- 마찰로 인한 손상 감소
- 적은 마찰은 적은 에너지 의미
- 펌프가 클수록 에너지 절약도 커짐

**Motor Adapter**

- NEMA C-face나 IEC D-flange와 짝을 이룸
- 통합된 BASE는 ANSI base plate에 맞음
- 모든 마운팅 볼트는 외부 아답터에서 모터/펌프 메이팅에 편리하게 접속됨

**Outer Drive**

- 모터 프레임 사이즈당 한 개의 Outer drive
- Dowel pin은 모터 샤프트 키를 빠르고 쉬운 설치를 위해 제거
- 중심 Drill & Tap thread는 모터 샤프트로부터 쉽게 제거
- 모터 샤프트 위치에 얼라이먼트 그루브가 있음 (특별공구 필요 없음)

**Containment Ring**

- 초중량, 덕타일 주철 (ductile iron casting)
- 아답터에서 분리되어 펌프 끝에 약액의 오픈없이 모터를 분해 가능하게 함
- 케이싱의 컨테이너먼트 셀을 완벽하게 지지
- 모터 아답터를 펌프 끝에 나란하게 해줌

**Containment Shell**

- 강도와 내화학성의 조합을 위한 Carbon Fiber ETFE Molding
- 펌프 샤프트를 위한 보강 소켓
- 고압력, 고강도, 높은 충격 흡수를 위한 아라미드 복합재 (Aramid composite)로 만든 outer housing

**Pump Shaft**

- 순수 알파 소결 실리콘 카바이드 (Pure Alpha sintered silicon carbide)
- 낮은 NPSHr을 위한 캔틸레버 (Cantilevered)
- 모든 레이디얼 하중 처리를 위해 대형화

**Gasket**

- 최대의 내 화학성을 위한 표준 TEFLON Capsule 구조
- EPDM 또는 FKM 선택 가능

**Radial Bearings**

- 이종의 SiC 베어링
- 펌프 샤프트에 최적의 얼라이먼트를 위한 호환가능한 임펠러 마운트
- 적절한 베어링 위치를 위한 PTFE 중심 스페이스 개별적으로 대체 가능

**Pump Casing**

- 덕타일 주철(Cast Ductile Iron)
- 매우 낮은 NPSHr을 위한 흡입구 완전 오픈 가능
- 완전 부착된 ETFE liner 최소 1/8 (3mm), 완전진공
- 불소산플라스틱은 보편적인 내부식성을 위해 제공

**Impeller Assembly**

- SiC wear ring 있는 임펠러
- 고효율, 낮은 NPSHr, 임펠러 눈을 완전 오픈할 수 있는 디자인
- 최적의 강도와 내화학성을 위한 탄소섬유 ETFE (Carbon Fiber ETFE)
- 이중 용접된 인쪽 마그네틱은 최고의 내부식성과 침투 장벽을 제공

**NGK**

**Competition**

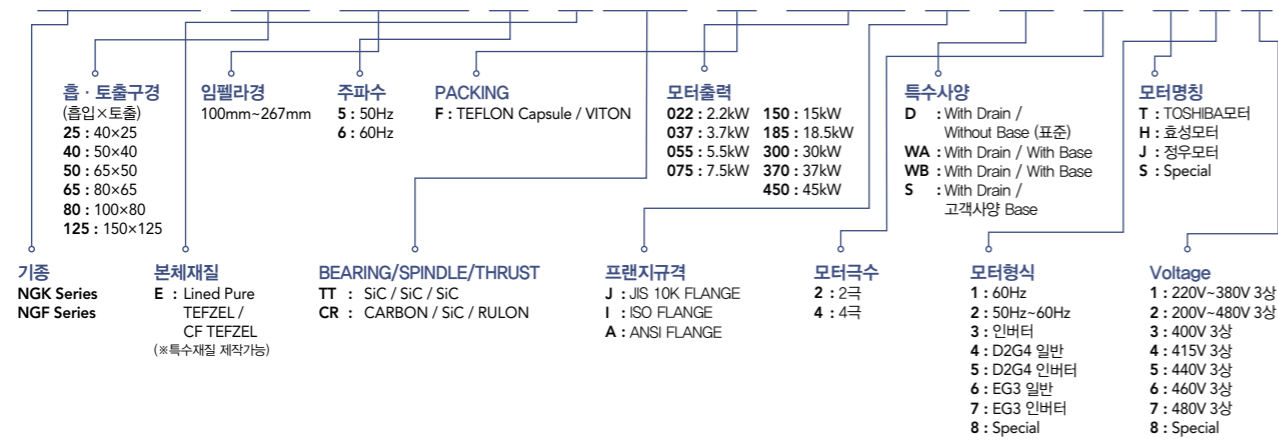
**DRAIN**

- 선택가능한 CASING DRAIN
- 표준 Cast Stainless Steel Blind Flange
- 3/8" NPT Drain Flange 선택가능
- 1" ANSI Flange로 Casing Flange Adapter 선택가능

**NGK**

**Competition**

# NGK-50-160 6-ETT-F-075 J-D-2-T11



●○ 성능일람표

NGK Series

형 식	흡입구경(mm)	토출구경(mm)	입펠라외경(mm)	유량(ℓ /min)	양정 (M)		출력(kw)
					50Hz	60Hz	
NGK25-1	40	25	169	250	-	56	7.5
					39	-	5.5
			150		29	-	3.7
NGK25-2	40	25	210	250	-	90	11
					67	-	7.5
			180		46	67	7.5
NGK25-3	40	25	169	70	-	57	3.7
					36	-	2.2
			135		19	-	1.5
NGK25-4	40	25	210	90	-	80	7.5
					50	-	5.5
			180		31	54	5.5
NGK40-1	50	40	169	250	-	54	7.5
					37	-	5.5
			150		29	43	5.5
NGK40-2	50	40	210	250	-	90	11
					67	-	7.5
			180		46	67	7.5
NGK40-3	50	40	169	70	-	57	3.7
					36	-	2.2
			135		19	32	2.2
NGK40-5	65	40	210	600	-	92	18.5
					62	-	11
			169		35	50	7.5
NGK50-1	65	50	169	500	-	50	7.5
					35	-	5.5
			150		-	37	5.5
					25	-	3.7

●○ 성능일람표

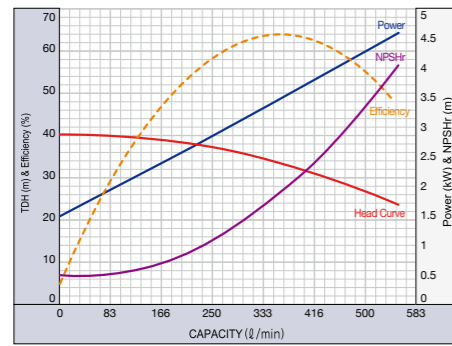
NGK Series

형 식	흡입구경(mm)	토출구경(mm)	입펠라외경(mm)	유량(ℓ /min)	양정 (M)		출력(kw)
					50Hz	60Hz	
NGK50-2	65	50	210	500	-	91	18.5
					60	-	15
			180		-	65	15
			42		-	7.5	
NGK50-3	65	50	267	500	-	146	45
			245		-	120	30
			225		-	100	22
			81		-	22	
			67		-	18.5	
NGK65-1	80	65	178	1000	-	50	15
			31		-	11	
			20		-	7.5	
NGK65-2	80	65	210	1200	-	82	30
			50		-	18.5	
			190		-	64	22
			37		-	15	
NGK65-3	80	65	267	1200	-	141	55
			94		-	45	
			77		-	30	
			63		-	22	
NGK80-1	100	80	178	1650	-	49	22
			29		-	15	
			20		-	11	
NGK80-2	100	80	210	2000	-	68	37
			40		-	22	
			29		-	18.5	
NGK80-3	100	80	267	2000	-	131	75
			81		-	55	
			245	1750	-	106	75
			63		-	45	
			225		-	90	55
NGF80	100	80	267	2500	-	30	22
			18		-	15	
			14		-	11	
NGK125	150	125	210	3500	-	67	75
			39		-	45	
			28		-	30	
			16		-	22	
NGF125	150	125	267	4000	-	27	30
			21		-	22	
			12		-	18.5	

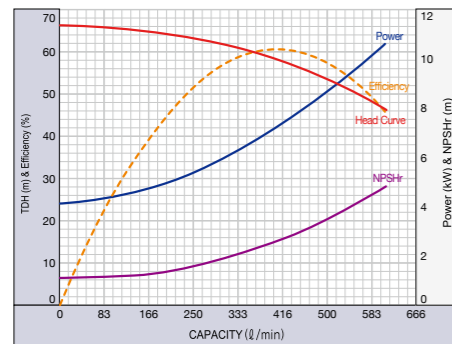
● NGK Series

50Hz

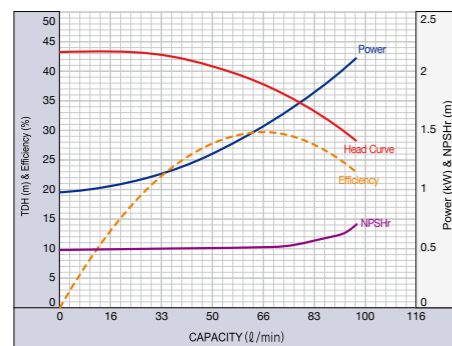
NGK 25-1



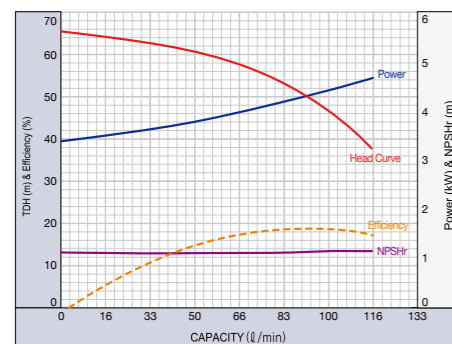
NGK 25-2



NGK 25-3

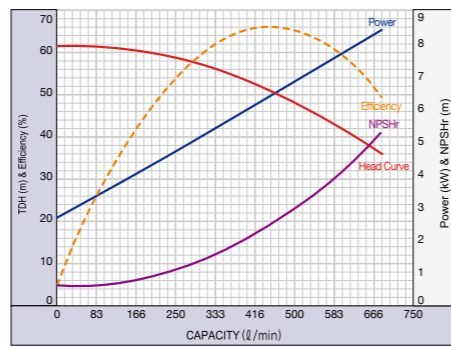


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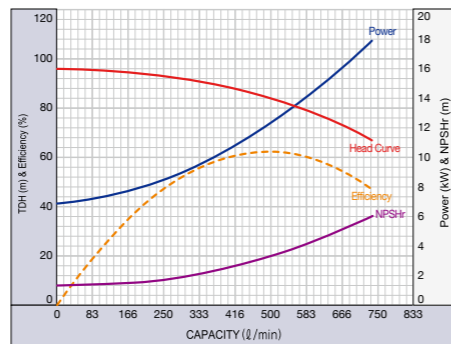


60Hz

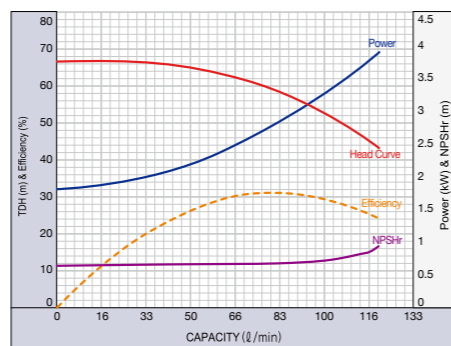
NGK 25-1



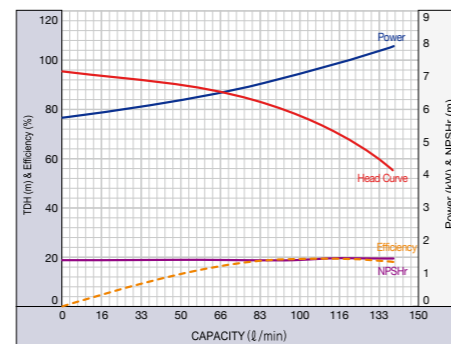
NGK 25-2



NGK 25-3



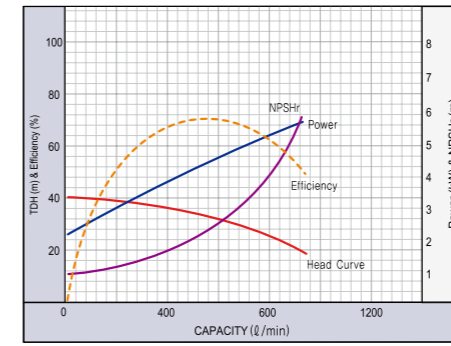
NGK 25-4



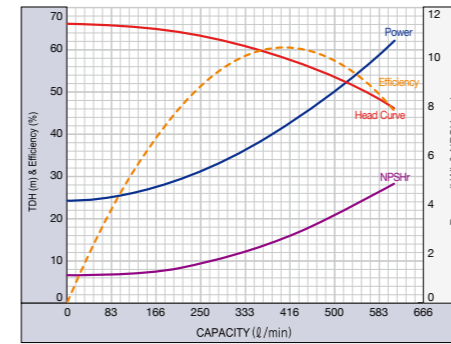
● NGK Series

50Hz

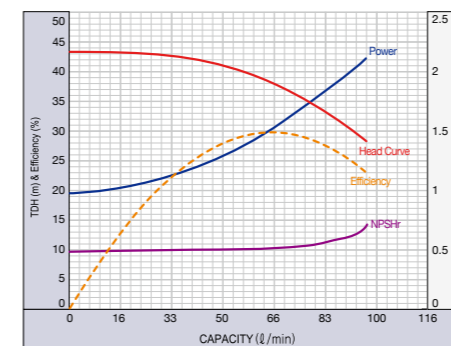
NGK 40-1



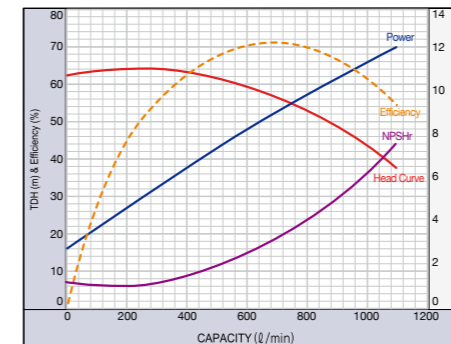
NGK 40-2



NGK 40-3

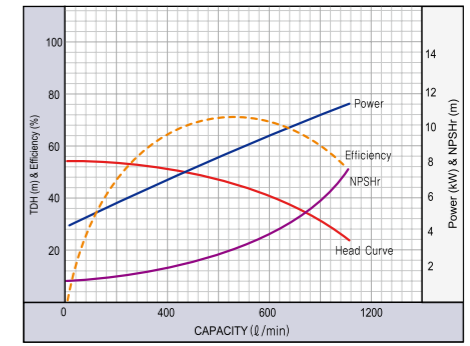


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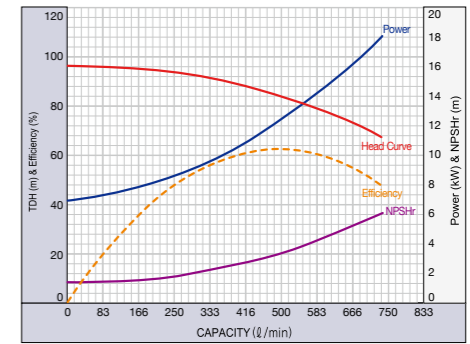


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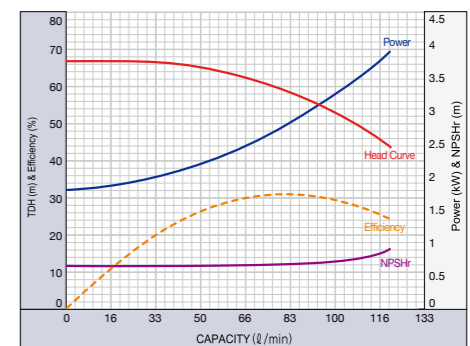
NGK 40-1



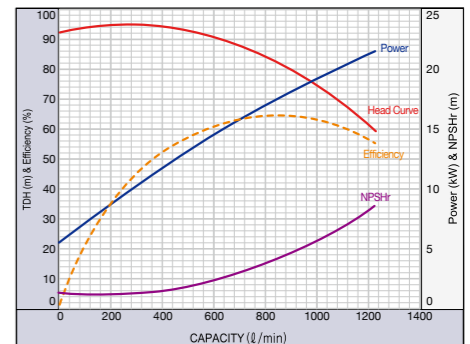
NGK 40-2



NGK 40-3



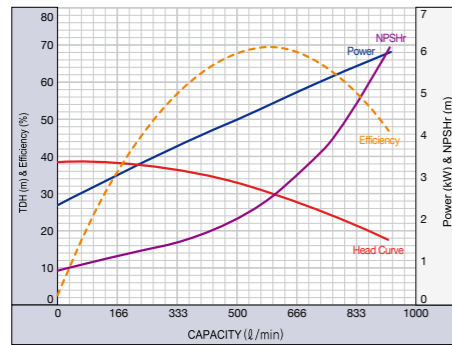
NGK 40-5



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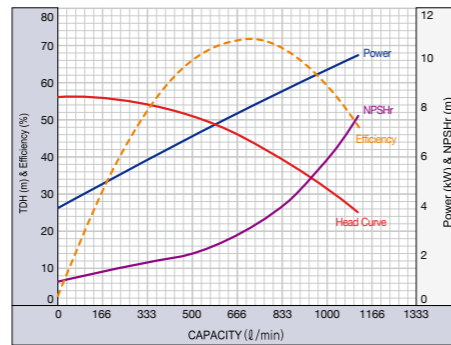
50Hz

NGK 50-1

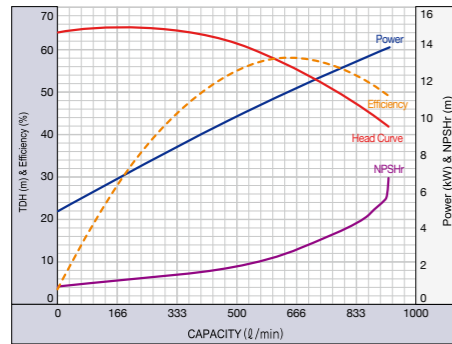


60Hz

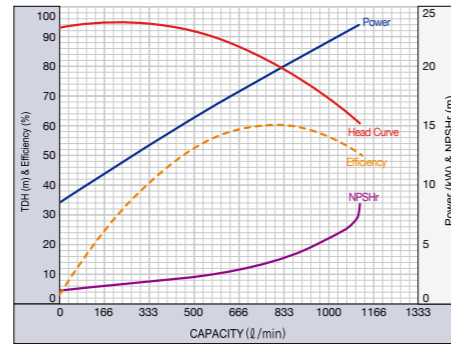
NGK 50-1



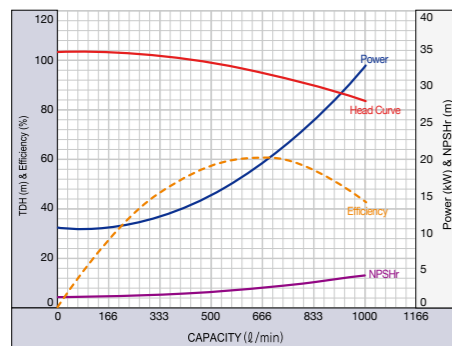
NGK 50-2



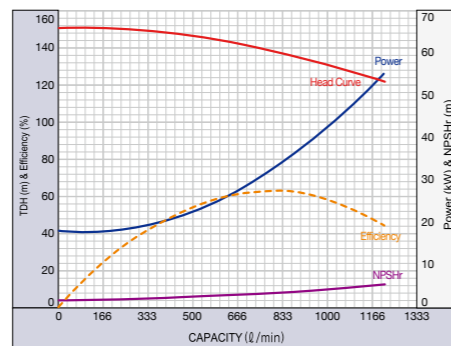
NGK 50-2



NGK 50-3



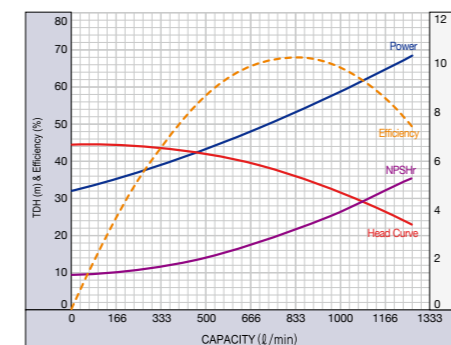
NGK 50-3



● NGK Series

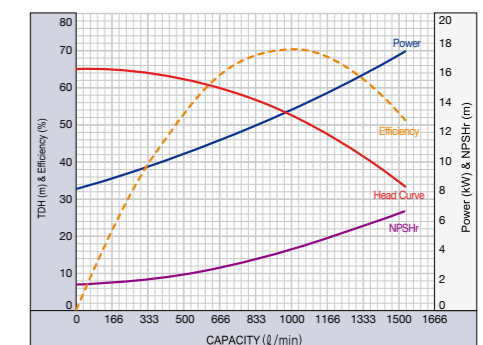
50Hz

NGK 65-1

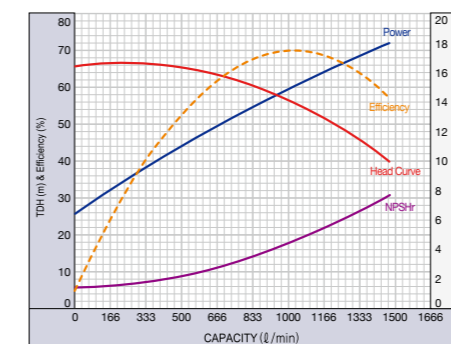


60Hz

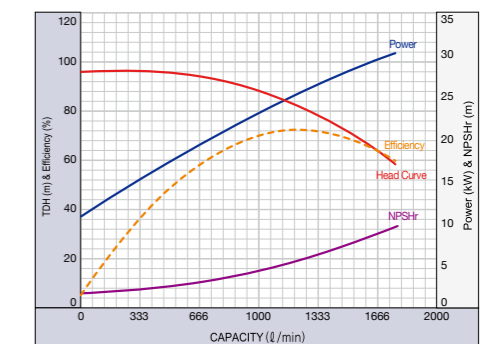
NGK 65-1



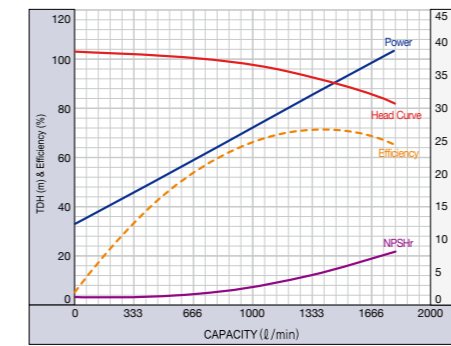
NGK 65-2



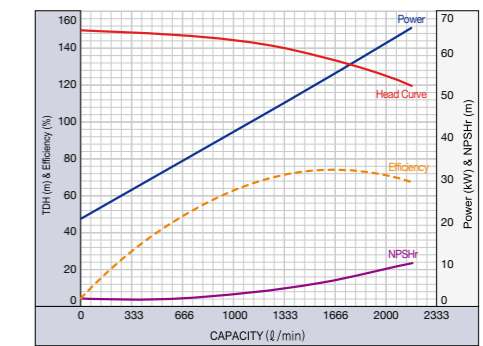
NGK 65-2



NGK 65-3



NGK 65-3



● ○ 성능곡선

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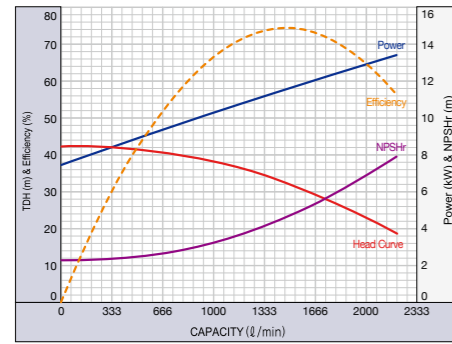
50Hz

60Hz

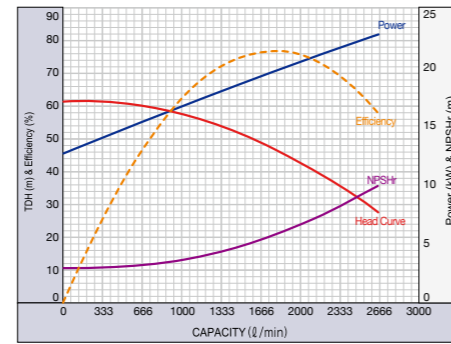
50Hz

60Hz

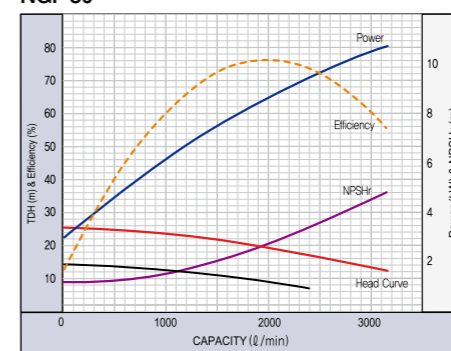
NGK 80-1



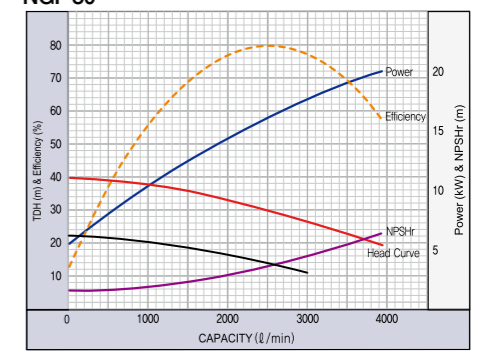
NGK 80-1



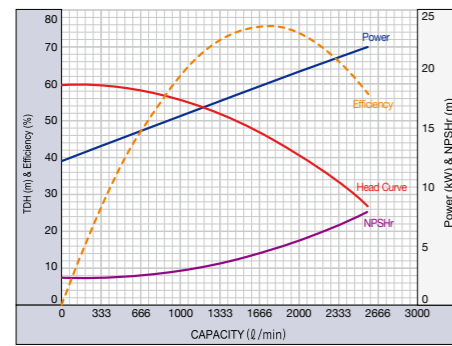
NGF 80



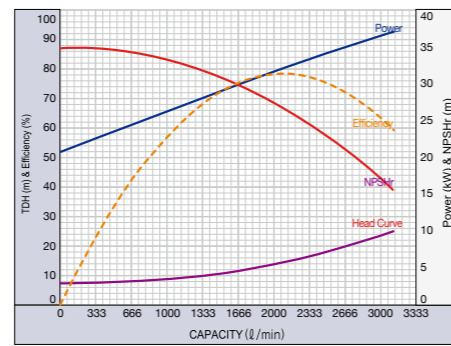
NGF 80



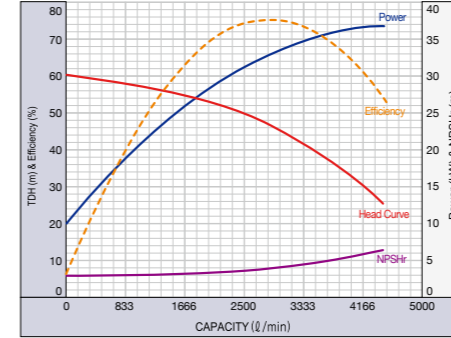
NGK 80-2



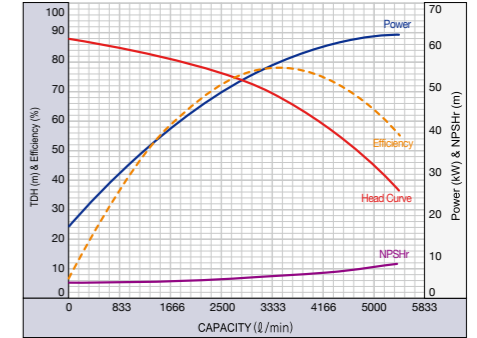
NGK 80-2



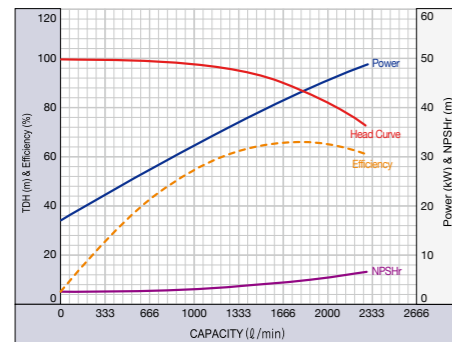
NGK 125



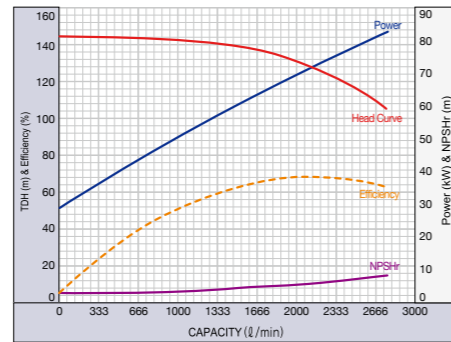
NGK 125



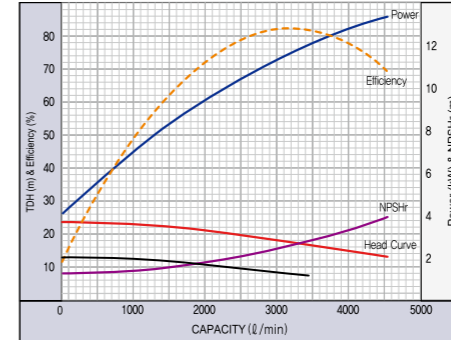
NGK 80-3



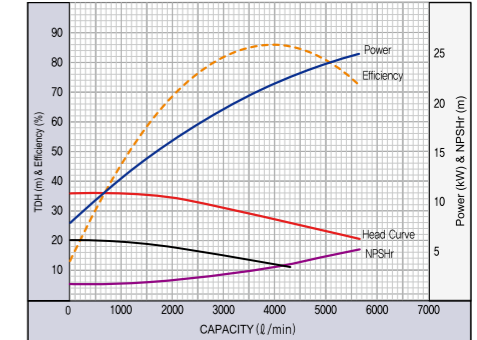
NGK 80-3



NGF 125

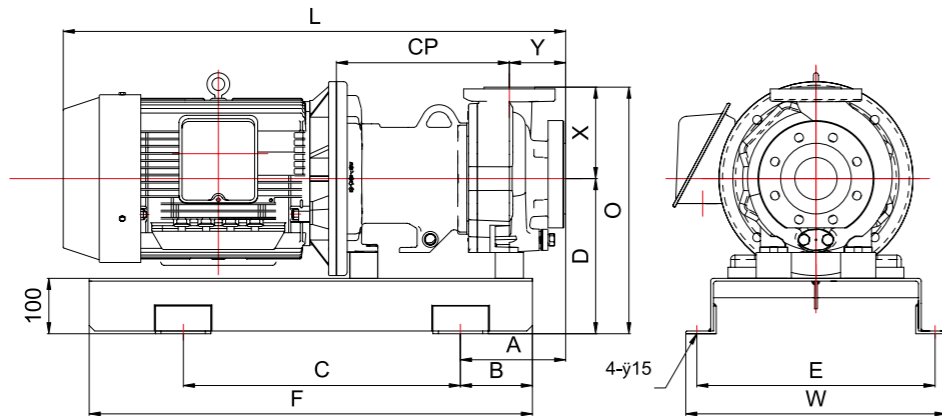


NGF 125



● ○ 외형치수

● BASE WA TYPE



● NGK(BASE WA TYPE)

[단위:mm]

형 식	출력(Kw)	W	E	A	B	C	F	D	X	O	Y	CP	L
NGK25-1	3.7	370	330	150	130	360	600	233	165	398	102	222	650
	5.5							693					
	7.5							693					
NGK25-2	5.5	470	430	190	130	500	800	280	165	445	102	312	907
	7.5												907
	11												907
NGK25-3	1.5	370	330	150	130	360	600	233	165	398	102	222	599
	2.2							650					
	3.7							721					
NGK25-4	3.7	370	330	150	130	360	600	233	165	425	102	293	764
	5.5							764					
	7.5							764					
NGK32	15	370	330	150	130	360	380	260	180	440	80	284	733
	7.5												733
NGK40-1	3.7	370	330	150	130	360	600	233	165	398	102	222	650
	5.5							693					
	7.5							693					
NGK40-2	5.5	470	430	190	130	500	800	280	165	445	102	312	907
	7.5												907
	11												907
NGK40-3	1.5	370	330	150	130	360	600	233	165	398	102	222	599
	2.2							650					
	3.7							721					
NGK40-4	3.7	370	330	150	130	360	600	260	165	425	102	293	764
	5.5							764					
	7.5							764					
NGK40-5	18.5	370	330	150	130	360	480	260	180	440	100	284	733
	11												733
NGK50-1	3.7	370	330	150	130	360	600	233	160	392	80	213	641
	5.5							684					
	7.5							684					

● ○ 외형치수

● NGK(BASE WA TYPE)

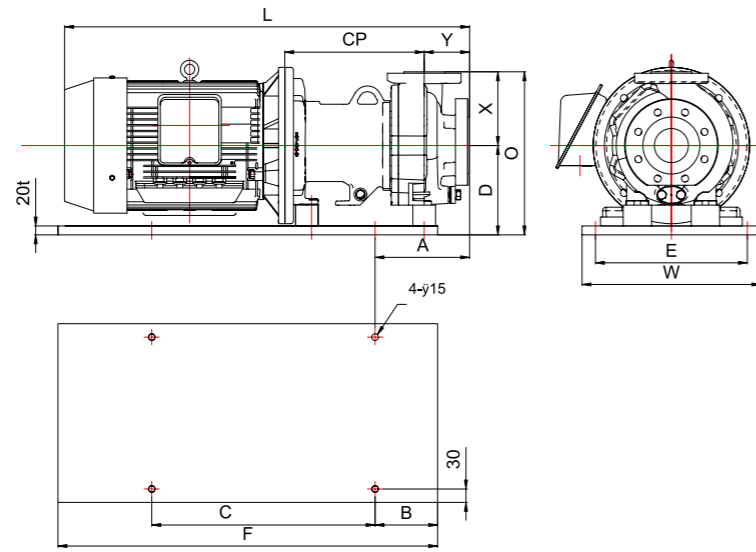
[단위:mm]

형 식	출력(Kw)	W	E	A	B	C	F	D	X	O	Y	CP	L
NGK50-2	7.5	370	330	150	130	360	600	260	165	425	102	293	764
	15												907
	18.5												929
NGK50-3	18.5	470	430	190	130	500	800	310	216	526	102	312	929
	22												995
	30												1033
	45												1089
	55												1089
NGK65-1	7.5	370	330	150	130	360	600	260	165	425	102	293	764
	11												907
NGK65-2	15	470	430	190	130	500	800	310	241	551	102	312	907
	18.5												929
	22												995
	30												1033
	37												1089
NGK65-3	22	570	530	190	130	500	800	310	241	580	102	318	1089
	30												1033
	37												1089
	45												1089
	55												1118
NGK65-4	37	570	530	190	130	500	480	280	225	505	100	284	764
	18.5												764
NGK80-1	11	470	430	190	130	500	800	310	216	526	102	312	907
	15												929
	18.5												995
	22												995
NGK80-2	18.5	570	530	190	130	500	800	310	279	589	102	315	929
	22												995
	30												1033
	37												1033
NGK80-3	37	570	530	190	130	500	900	339	279	618	102	318	1089
	45												1089
	55												1089
	75												1118
	75												1237
NGK125	30	470	430	190	130	500	800	354	343	697	102	315	1033
	45												987
	55												1118
	75												1237
NGF80	11	470	430	190	130	500	800	310	279	697	102	312	907
	15												929
	18.5												995
	22												995
NGF125	18.5	570	530	190	130	500	800	354	343	697	102	312	929
	22												995
	30												1033

※주문에 따라 고유량(최대 4,000LPM), 고양정(최대 140M)까지 제작 및 공급 가능함.  
※Motor에 따라 치수가 변경될 수 있음.

● ○ 외형치수

● BASE WB TYPE



● NGK(BASE WB TYPE)

[단위:mm]

형 식	출력(Kw)	W	E	A	B	C	F	D	X	O	Y	CP	L
NGK25-1	3.7	300	240	202	130	400	600	153	180	318	102	222	650
	5.5							693					
	7.5							693					
NGK25-2	5.5	400	340	212	140	500	800	200	165	345	102	293	764
	7.5												907
NGK25-3	1.5	400	340	212	140	500	800	200	165	318	102	222	599
	2.2												650
	3.7												721
NGK25-4	3.7	300	240	202	130	400	600	180	180	345	80	293	764
	5.5												764
	7.5												764
NGK32	15	300	240	202	130	400	600	260	180	320	80	284	733
	7.5							733					
NGK40-1	3.7	300	240	202	130	400	600	153	180	318	100	222	650
	5.5							693					
NGK40-2	5.5	400	340	212	140	500	800	200	165	345	80	293	764
	7.5												764
NGK40-3	1.5	300	240	202	130	400	600	153	180	318	100	222	599
	2.2												650
	3.7												721
NGK40-4	3.7	300	240	202	130	400	600	180	180	345	100	293	764
	5.5												764
	7.5												764
NGK40-5	18.5	300	240	202	130	400	600	260	180	320	100	284	907
	11							907					
NGK50-1	3.7	400	340	212	140	500	800	153	160	313	102	213	641
	5.5							684					
	7.5							684					
NGK50-2	7.5	400	340	212	140	500	800	230	216	446	102	293	764
	15												907
	18.5												929

● ○ 외형치수

● NGK(BASE WB TYPE)

[단위:mm]

형 식	출력(Kw)	W	E	A	B	C	F	D	X	O	Y	CP	L
NGK50-3	18.5	400	340	212	140	500	800	230	216	446	102	312	929
	22												995
	30												1033
	45												1089
NGK65-1	7.5	300	240	202	130	400	600	180	165	345	102	293	764
	11												907
NGK65-2	15	400	340	212	140	500	800	230	216	446	102	312	907
	18.5												929
	22												995
	30												1033
NGK65-3	22	450	390	202	130	500	900	259	241	500	102	318	1089
	30												1033
	37												1089
	45												1118
NGK65-4	37	300	240	202	130	400	600	180	165	345	102	293	764
	18.5												764
NGK80-1	11	400	340	212	140	500	800	230	216	446	102	312	907
	15												929
	18.5												995
NGK80-2	22	300	240	202	130	400	600	180	165	345	102	293	764
	18.5												764
	22												764
NGK80-3	37	450	390	202	130	500	900	259	279	538	102	318	1089
	45												1089
	55												1118
	75												1237
NGK125	30	500	340	212	140	500	800	274	343	617	102	315	1033
	45												1033
	55												987
	75												1118
NGF80	11	400	340	212	140	500	800	230	279	509	102	312	907
	15												929
	18.5												995
NGF125	22	300	240	202	130	400	600	180	165	345	102	293	764
	18.5												764
	30												929

\*주문에 따라 고유량(최대 4,000LPM), 고압정(최대 140M)까지 제작 및 공급 가능함.  
\*Motor에 따라 치수가 변경될 수 있음.