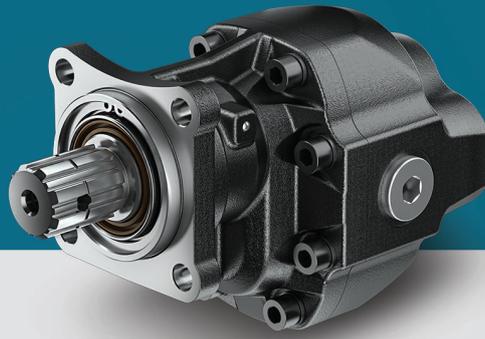


**GPRN30**  
TECHNICAL CATALOGUE  
TEKNIK KATALOG

HYDRAULIC <sup>GEAR</sup> PUMPS





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**GPRN30**  
TECHNICAL CATALOGUE  
TEKNIK KATALOG

GEAR  
HYDRAULIC PUMPS

## 1. GENEL BİLGİLER

Blue Ascend GPRN30 dişli pompaları yüksek mukavemetli döküm gövde ve iki ana parçadan meydana gelmektedir. Bu pompalar, yüksek performansı, uzun çalışma ömrü ve düşük satın almadan dolayı modern hidrolik sistemlerde geniş bir şekilde kullanılmaktadır. Farklı iletim hacmi ve farklı dişli genişlikleri ile standart pompa grubunda yer almaktadırlar. Daha fazla konfigürasyon varyantları için farklı flanş ve dişliler ile çoklu pompa kombinasyonları mümkün olacaktır.

## 2. KONSTRÜKSİYON

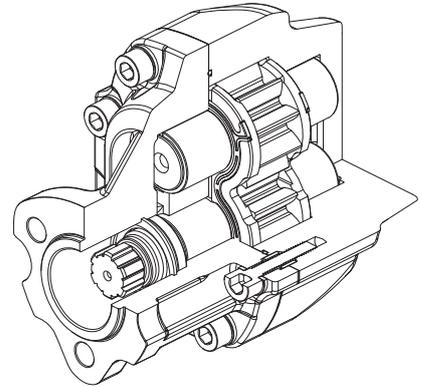
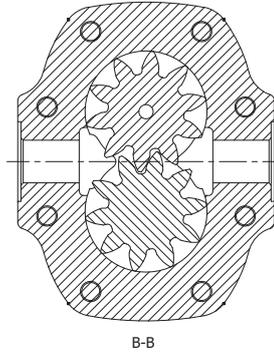
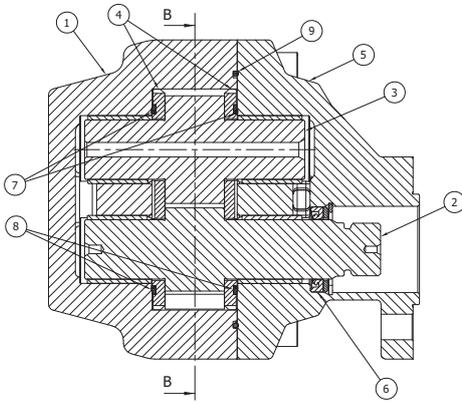
GPRN30 dişli pompalar, döküm gövde, bir çift dişli, iki aşınma plakası ve ön kapaktan oluşur. Tahrik mili, ön kapaktan geçerek şaft keçesi ile sızdırmazlık sağlanmıştır. Pompa şaftında aksel veya radyal yük oluşturmayacak esnek bağlantı elemanlarının (kaplinler) kullanılması önerilir. Debi dalgalanmaları ve gürültü seviyesi minimuma indirilmiştir. İç sızdırmazlık keçeleri üzerinde, basınca bağlı olarak kuvvetler elde edilir ve bu durum optimum verimliliği sağlar. Aksi belirtilmedikçe, keçeler, yüksek çekme mukavemetine ve sıcaklığa dayanıklı nitril kauçuk (NBR) olacaktır. Talep edilmesi durumunda, FKM keçeler kullanılabilir.

## 1. GENERAL INFORMATION

Blue Ascend GPRN30 gear pumps are composed of a high-strength cast iron body and two main components. These pumps are widely used in modern hydraulic systems due to their high performance, long service life, and economical pricing. Featuring various displacement capacities and gear widths, these pumps are included in the standard pump group. For more configuration variants, different flanges, gears, and multiple pump combinations are also available.

## 2. CONSTRUCTION

GPRN30 gear pumps consist of a cast iron body, a pair of gears, two thrust plates, and a front cover. The drive shaft passes through the front cover and is sealed with a shaft seal to ensure leak-tightness. It is recommended to use flexible coupling elements (couplings) that do not generate axial or radial loads on the pump shaft. Flow pulsations and noise levels are minimized. Forces are generated on the internal sealing elements depending on the pressure, ensuring optimal efficiency. Unless otherwise specified, the seals will be made of nitrile rubber (NBR), which is resistant to high tensile strength and temperature. If requested, FKM seals can be used.



1. Gövde / Body	6. Şaft Keçesi / Shaft Seal
2. Tahrik Eden Dişli / Drive Gear	7. Takviye Keçesi / Back Up Seal
3. Tahrik Edilen Dişli / Driven Gear	8. Burç Kulak Keçesi / Bush Lobe Seals
4. Aşınma Plakası / Thrust Plate	9. Gövde Keçesi / Body Seals
5. Ön Kapak / Front Cover	

### 3. POMPA DÖNÜŞ YÖNÜ

Pompanın ön tarafından bakıldığında ve tahrik eden dişli aşağıya gelecek şekilde pompa dönüş yönü belirlenir (şekillere bakınız).

Sağ dönüşlü pompaların (C) tahrik eden dişlisi sağa (saat yönünde) dönecek, emiş deliği sağda ve basınç deliği solda olacaktır.

Sol dönüşlü pompaların (A) tahrik eden dişlisi sola (saat yönünün tersine) dönecek, emiş deliği solda ve basınç deliği sağda olacaktır.

Resimlerde görüldüğü gibi yağ, emiş deliği tarafından alınarak dişliler vasıtası ile çıkış portuna transfer edilmektedir.

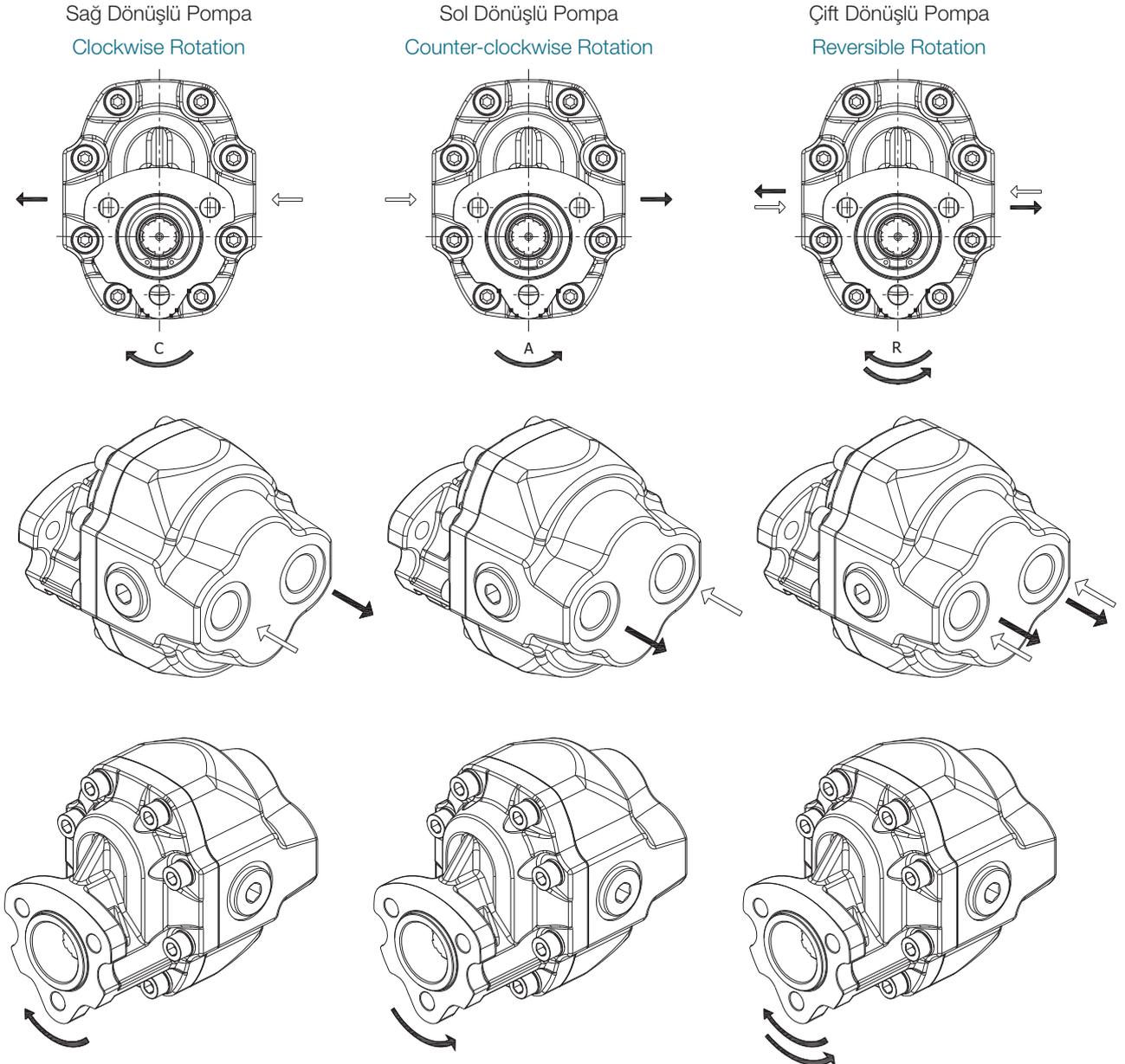
### 3. PUMP DIRECTION OF ROTATIONS

The direction of rotation of a gear pump is identified by looking at the pump from the front coverside and with the drive gear turned down (see figures below).

Pumps with clockwise rotation (C) have a drive gear which turns clockwise, with the suction port on the right and the pressure port on the left.

Pumps with counter-clockwise rotation (A) have a drive gear which turns counter-clockwise, with the suction port on the left and the pressure port on the right.

The figure also shows the pressure flow inside the pumps as the oil is transferred from the suction port to the pressure port by the gears.



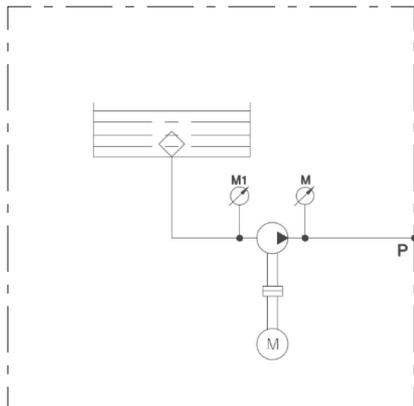
#### 4. POMPANIN BAĞLANMASI

Pompalar, civatalar ve merkezleme çapı ile basit olarak ön kapaktan bağlanırlar. Merkezleme çapının oturacağı yuvanın, kullanıcı tarafından yapılacak kısımda 1x45° pah kırılarak ve uygun geçme toleranslarında işlenmesi, pompanın yerine daha hassas bir şekilde yerleşmesini sağlar. En az titreşim için, rijit yapılan giriş çıkış bağlamaları yerine, hidrolik hortumlarla yapılacak bağlamalar tercih edilmelidir.

##### → Kurulum

Sistem çalıştırılmadan önce rutin kontrollerin tamamlanması ve bazı önlemlerin alınması önerilir.

- ▶ Bağlantı flanşı, iletim hattı bağlantı elemanları ve pompa üzerindeki kir ve tozları temizleyin.
- ▶ Giriş ve çıkış iletim hattı uçlarının yağ seviyesi altında ve birbirinden uzak olduğundan emin olun.
- ▶ Çalıştırmadan önce pompa içerisinde yeterli seviyede hidrolik akışkan olduğundan emin olun.
- ▶ Pompa çalıştırma yönünün doğruluğunu kontrol edin.
- ▶ Sisteme bağlantı yapılırken pompa shaftı üzerinde aksel ve radyal yüklerin oluşmadığından emin olun.
- ▶ Sistemdeki emniyet valfleri ilk çalıştırmada en düşük seviyeye ayarlanmalıdır.
- ▶ Pompa için katalogta belirtilen çalışma şartları sınırları içerisinde çalışma değerlerine ulaşana kadar basıncı ve hızı kademeli olarak artırın.
- ▶ Sistem elemanlarının ve akışkan sıcaklığını sürekli olarak kontrol edin.
- ▶ Pompa devreye alma ve çalıştırma sırasında sistemde hava olmadığından emin olun.
- ▶ Pompa ömrünün arttırılabilmesi için ilk çalıştırmanın yükte yapılmaması önerilir.



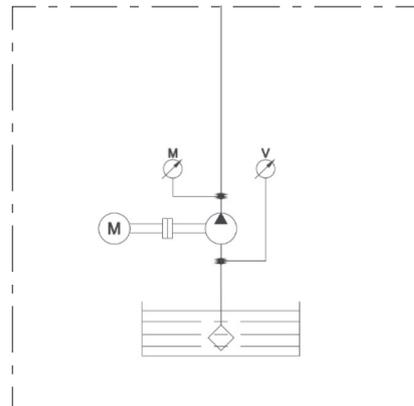
#### 4. PUMP MOUNTING

The pumps are easily mounted from the flange with the help of bolts and the spigot location. The seat for the centering diameter, which will be made by the user, should be machined with a 1x45° chamfer and smooth fit tolerances, ensuring more accurate placement of the pump. It is good practice to use flexible hose adjacent to the pump in both the suction and pressure lines to minimize vibration, which can be transmitted to the pump by rigid pipe runs.

##### → Installation

Before starting the system, we suggest to complete the routine controls and adopt some simple precautions.

- ▶ Remove all dirt and dusts from flanges connecting inlet and transmission line components.
- ▶ Ensure that intake and return pipes are always below fluid level and as far from each other as possible.
- ▶ Ensure there is sufficient hydraulic fluid in the pump before starting.
- ▶ Check the accuracy of the pump's direction of rotation.
- ▶ Check for the pump shaft, it is necessary that the connection does not induce axial and radial loads.
- ▶ The safety valves in the system should be set to the lowest level during the initial startup.
- ▶ For the pump, gradually increase pressure and speed until the operating values are reached, within the operating conditions specified in the catalog.
- ▶ Check the temperatures of system parts and fluid continuously.
- ▶ Make sure there is no air in the system during pump startup and operating.
- ▶ It is recommended that the initial startup be performed without load to increase the pump's lifespan.



### → Yağ Tankı

- ▶ Tankta bulunan yağ miktarı dolaşımda bulunan yağ miktarının minimum 3 katı olmalıdır.
- ▶ Kullanılacak yağ, aşırı ısınmayı önleyecek ve çalışma koşullarına uygun olacak şekilde olmalıdır. Gerekli durumlarda ısı eşanjörü kullanılmalıdır.
- ▶ Tank dönüş hattındaki yağın sisteme girişini geciktirmek için giriş ve çıkış hatları arasında ayırıcı konulabilir.
- ▶ Köpüklenmenin engellenmesi için tüm dönüş hatları, minimum yağ seviyesinin altında olmalıdır.

### → Yağ İletim Hattı

- ▶ Boru ve hortum çapları minimum pompa port çapları büyüklüğünde olmalıdır. Hidrolik direncin oluşmasını önlemek için dirsek, vana ve boru kesit daralmaları minimuma indirilmelidir.
- ▶ İletim hattının sızdırmaz olduğundan emin olun.
- ▶ Kayıpların azaltılması için yağ iletiminin mümkün olduğunca kısa hatlar kullanılarak yapılması önerilir.
- ▶ Esnek yapıda iletim hatlarının kullanılması titreşimi azaltacaktır.

## 5. POMPANIN EMİŞİ

İşletme şartlarında basınç düşümünü önlemek için uygun boyutta filtre kullanılması tavsiye edilir. Emiş borusu basıncı standart çalışma şartlarında atmosfer basıncından düşük olmalıdır. Pompa giriş basıncı 0,7-3 (bar) aralığında olmalıdır. Tavsiye edilen pompa yağ emiş hızı  $V = 0,6 - 1,2$  m/s olmalıdır.

## 6. POMPANIN ÇIKIŞI

Pompa çıkış hattı çalışma basıncını sınırlayan bir emniyet valfi ile korunmalıdır. Çıkış boru büyüklüğü, akış hızı, gürültü, aşırı basınç düşmeleri ve ısınmayı minimize edecek şekilde belirlenmelidir. Akış hızı, normal olarak 5m/s 'nin altında kabul edilebilir.

### → Oil Tank

- ▶ The amount of oil in the tank must be at least 3 times the amount of oil in circulation.
- ▶ The oil to be used must be such that it prevents overheating and is suitable for operating conditions. A heat exchanger should be used when necessary.
- ▶ The intake and return lines in the tank must be spaced apart by inserting a vertical divider to delay the oil in the return line from entering the system.
- ▶ All return lines must be below the minimum oil level to prevent foaming.

### → Oil Transfer Line

- ▶ The pipe and hose diameters should be at least the size of the pump port diameter. To prevent hydraulic resistance, elbows, valves and pipe section reductions should be minimized.
- ▶ Ensure that the transfer line leak-proof.
- ▶ To reduce the loss of power, it is recommended that the oil transfer of the lines should be short as possible.
- ▶ A length of flexible tubing is recommended to reduce the vibrations.

## 5. PUMP SUCTION

It is also advisable to choose a filter of a suitable size to minimize any pressure drop and to take measures to prevent gradual clogging over time. The suction port pressure must be lower than atmospheric pressure at standard operating conditions. Pump inlet pressure must be between 0,7-3 bar. The diameter of the suction pipe should ensure that the oil speed within the range from  $V = 0,6$  to 1,2 m/s.

## 6. PUMP OUTLET

The pump line should be protected by a safety valve that limits the operating pressure. The outlet pipe size should be determined to minimize flow velocity, noise, excessive pressure drops, and heating. The flow rate under 5 m/s is normally acceptable.

### → Filtreleme

Bir dişli pompanın ömrü yağ içindeki yabancı maddelerin varlığına bağlıdır. Bu nedenle pompa ve sistemin ömrünü uzun kılmak iyi bir filtreleme ile mümkündür. Her durumda filtreleme sistemi yağ kirliliğini aşağıdaki tabloda verilen değerlere eşit veya altında tutmasını sağlamalıdır.

### → Filtration

A short service life of a gear pump is normally due to the presence of impurities in the oil. That is the reason an effective filter in the system to carry out regular maintenance get the system life longer. In any case, the filtering system must constantly ensure an oil contamination class equal to or less than those shown in the following table.

Çalışma Basıncı / Working Pressure (P)	$\Delta P > 170$ bar	$\Delta P < 170$ bar
Kirlilik Sınıfı / Contamination Class (NAS 1638)	9	10
Kirlilik Sınıfı / Contamination Class (ISO 4406)	20/18/15	21/19/16
Filtre / Obtain with filter ( $\beta_x=75$ )	20 $\mu\text{m}$	25 $\mu\text{m}$

## 7. TAVSİYE EDİLEN YAĞ

Bütün hidrolik sistemlerde ISO/DIN ve SAE standartlarında belirtilen mineral esaslı hidrolik yağ kullanılması tavsiye edilir. Akışkan viskozite değer aralıkları aşağıdaki tabloda belirtilmiştir.

## 7. RECOMMENDED FLUIDS

We recommend using only mineral oil based hydraulic fluids that comply with the ISO/DIN or SAE standards. Recommended viscosity ranges are given in the table below.

Önerilen Değer / Recommended Value	20/120 cSt
İzin Verilen Değer / Permitted Value	700 cSt
Başlangıçta Kabul Edilebilir Değer / Acceptable Value for Starting	<2000 cSt

## 8. ÇALIŞMA SICAKLIĞI

## 8. OPERATION TEMPERATURE

Akışkan Sıcaklık Aralığı / Fluid Temperature Range				
Sürekli / Continuous		Aralıklı / Intermittent		Keçe Tipi / Seal Type
Min. / Min.	Maks. / Max.	Min. / Min.	Maks. / Max.	
-20 °C	80 °C	-40 °C	100 °C	NBR
0 °C	100 °C	-20 °C	120 °C	FKM

### → Soğuk Çalıştırma

Soğuk çalıştırma sırasında (kısa süreli) aşağıdaki tabloda verilen sınır değerler uygulanabilir.

Minimum Giriş Basıncı / Minimum Inlet Pressure	0,7 bar (10 psi)
Maksimum Sızıntı Basıncı / Maximum Drain Pressure	+50% (Standart Değerler / Standard Values)
Minimum Sıcaklık / Minimum Temperature	-40 °C (-40 °F)
Maksimum Yağ Viskozitesi / Maximum Oil Viscosity	<2000 mm <sup>2</sup> /s (cst)

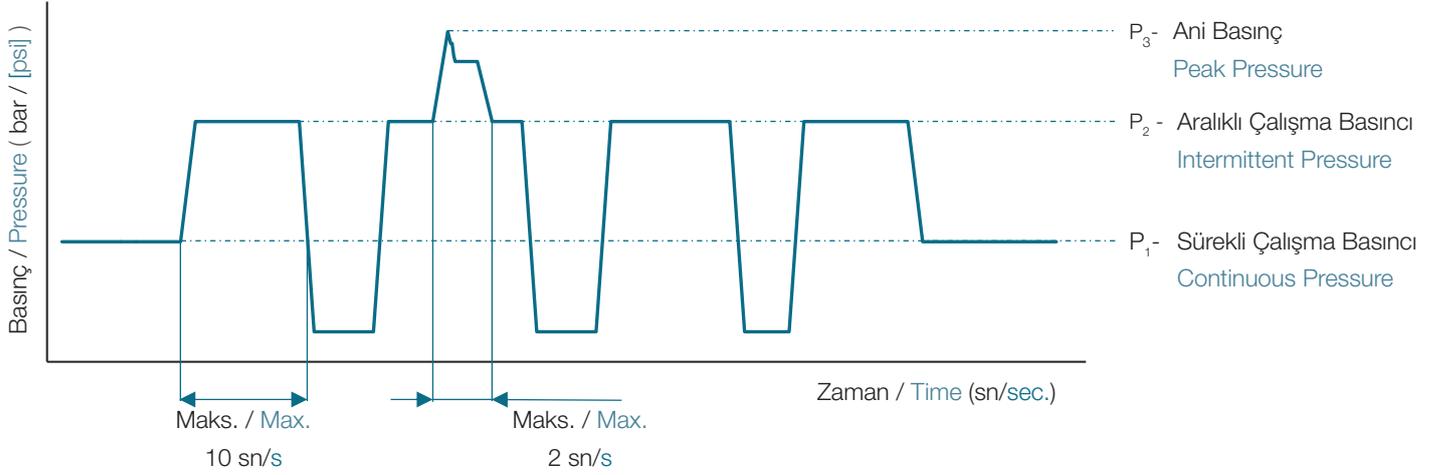
Ortam sıcaklığı -20 °C' nin altında ise yağ sıcaklığı -20 °C' ye ulaşana kadar sistem hızı ve basıncı sınırlanmalıdır.

### → Cold Start

During cold start (short term) the limit values given in the table below may be applied.

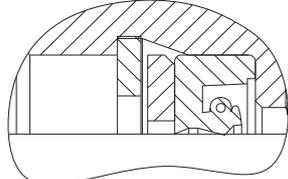
If the ambient temperature is below -20 °C, the system speed and pressure should be limited until the oil temperature reaches -20 °C.

### → Basınç Tanımlamaları



### → Keçe Özellikleri

Tek ve Çift Yönlü Pompalar - Single and Reversible Rotation Pumps	Standart Şaft Keçesi Standard Shaft Seal
	Max 3 bar (44 psi)



\* Basınç değerleri şaft dönüş hızına bağlı olarak değişebilmektedir. Pressure values may vary depending on the shaft rotation speed.

### → Periyodik Bakım

Pompa dış yüzeyi, özellikle şaft keçesinin bulunduğu bölge temiz tutulmalıdır. Bu bölgede bulunan toz ve kir aşındırıcı özellik göstererek keçe ömrünü düşürmektedir. Keçe aşınması sızıntıya sebep olabilir. Sistem içerisinde bulunan akışkanı temiz tutmak için filtreleri düzenli olarak değiştirin. Sistemin çalışma koşullarına göre periyodik olarak yağ seviyesi kontrol edilmeli ve yağ değişimi yapılmalıdır.

### 9. KAVİTASYON

Modern hidrolik sistemlerde kullanılan yağın büyük çoğunluğunda hacimsel olarak yaklaşık %10 oranında çözünmüş halde hava vardır. Sistem içinde belirli vakum şartlarında bu hava yağdan ayrışır ve hava kabarcıkları oluşturur. Bu hava cepleri belirli basınçlarda parçalanarak temasta olduğu malzemeyi aşındırarak zarar verir. Yukarıdaki açıklamalardan da anlaşılacağı üzere yağdaki hava oranı ne kadar büyükse yapacağı aşınma da o derece büyük olacaktır. Yağdaki aşırı hava oranının en büyük sebebi özellikle pompa girişindeki hava emişini doğuran kaçaklar ve uygun olmayan boru büyüklükleri, köşeli bağlantılar, ani kesit değişimleri gibi hususların oluşturduğu akış hattı dirençleridir.

### 10. TAHRİK ŞEKİLLERİ

Elastik kaplinler radyal ve aksenal yük taşımazlar. Aksenal ve radyal yönde minimum 0,25 mm boşluğu olan bir kaplin seçilmelidir. Üç parçalı elastik kaplinler tavsiye edilir.

### → Periodical Maintenance

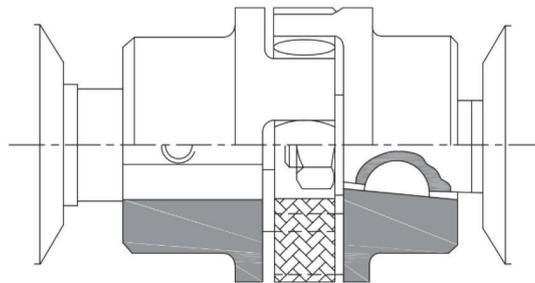
The pump exterior, especially the area where the shaft seal is located, should be kept clean. Dust and dirt in this area have an abrasive effect and reduce lifespan of the seal. Seal wear can cause leakage. Change the filters regularly to keep the fluid in the system clean. The oil level should be checked periodically and the oil should be changed according to the operating conditions of the system.

### 9. CAVITATION

Hydraulic oil used in the majority of systems contains about 10% dissolved air by volume. This air under certain conditions of vacuum within the systems is released from the oil and will cause air bubbles. These air pockets collapse if then subjected to pressure and this collapse creates erosion of the adjacent metal. It is obvious from the above that the greater the air content within the oil is then the more severe will be the resultant erosion created. The main causes of over aeration of the oil are air leaks particularly on the inlet side of the pump, and flow line restrictions such as inadequate pipe size, elbow fittings and sudden changes in flow line cross sectional area.

### 10. DRIVE ARRANGEMENTS

The flexible coupling does not transfer any radial or axial force to the pump. A coupling with a minimum clearance of 0,25 mm in the axial and radial direction should be chosen. A three pieces flexible couplings are recommended.

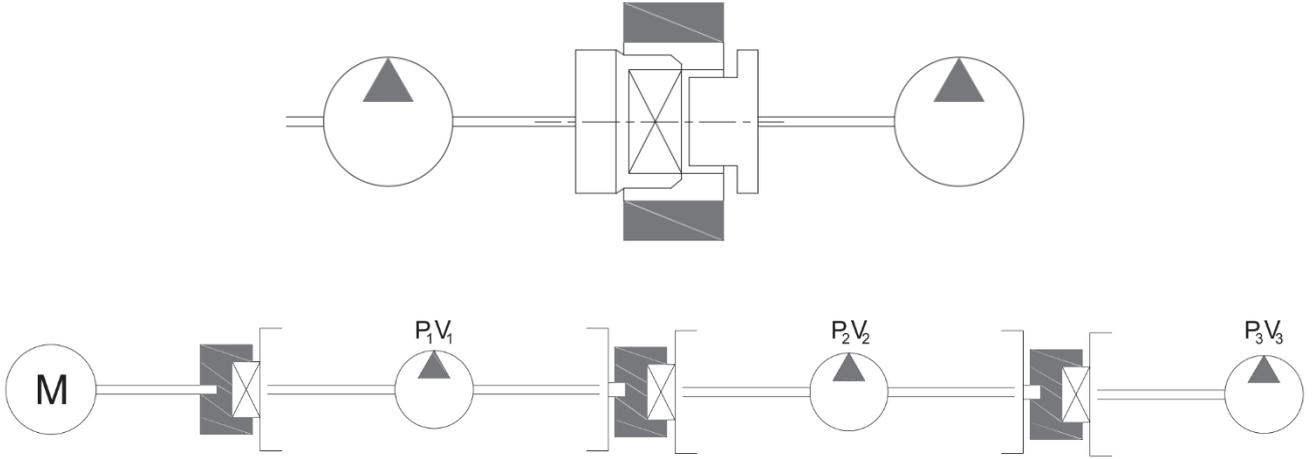


## 11. ÇOKLU TAHRİK EDEN DİŞLİ POMPALAR

Tahrik eden dişli milleri uzatılarak dişli pompaların ikili veya üçlü pompa kombinasyonlarını yapmak mümkündür. Tahrik kaplini, pompaların iki dişli arasına yerleştirilmektedir. Pompa emiş portları birbirinden ayrı olduğu gibi, ortak emiş yapmak da mümkündür. Basınç, tahrik eden dişli şaft mukavemetine göre sınırlanmıştır. Uygun değerler resimler üzerinde verilmiştir. Pompaların basınç sınırlaması aşağıdaki formüle göre olacaktır.

## 11. MULTIPLE GEAR PUMPS

Gear pumps are well-suited to tandem or triple combination of pumps in which the drive shaft of the first pump is extended to drive a second pump and sometimes third pump in the same manner. A coupling is fitted between each pair of pumps. The pressures are restricted by the strength of the drive shaft. Appropriate data is given in the dimensional drawings below. The pressure limitations will be according to the formula below.



$$M = \frac{P_1 \cdot V_1}{2\pi\eta m} + \frac{P_2 \cdot V_2}{2\pi\eta m} + \frac{P_3 \cdot V_3}{2\pi\eta m}$$

## 12. POMPA HESAPLARI

Pompa dizayn hesaplarında aşağıdaki parametreler esas alınır.

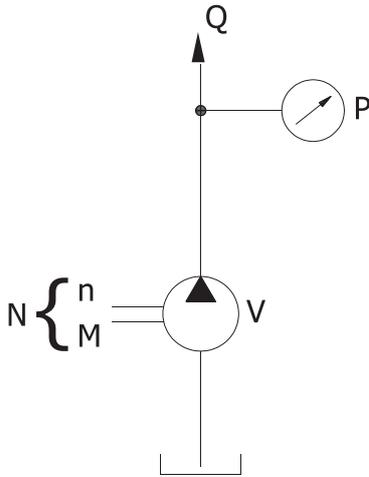
<b>V (cm<sup>3</sup>/dev)</b>	: İletim Hacmi
<b>Q (lt/dak)</b>	: Debi
<b>P (bar)</b>	: Basınç
<b>M (Nm)</b>	: Döndürme Torqu
<b>n (d/d)</b>	: Hız
<b>N (kW)</b>	: Güç
<b>η<sub>v</sub> (%)</b>	: Volumetrik Verim
<b>η<sub>m</sub> (%)</b>	: Mekanik Verim
<b>η<sub>t</sub> (%)</b>	: Toplam Verim

## 12. CALCULATION THE SPECIFICATION OF A GEAR PUMP

The design calculation for pumps are based on the following parameters.

<b>V (cm<sup>3</sup>/rev)</b>	: Displacement
<b>Q (l/min)</b>	: Flow Range
<b>P (bar)</b>	: Pressure
<b>M (Nm)</b>	: Drive Torque
<b>n (rpm)</b>	: Speed
<b>N (kW)</b>	: Power
<b>η<sub>v</sub> (%)</b>	: Volumetric Efficiency
<b>η<sub>m</sub> (%)</b>	: Mechanical Efficiency
<b>η<sub>t</sub> (%)</b>	: Total Efficiency

### FORMÜLLER / FORMULAS



$$Q = \frac{V \cdot n}{1000} \cdot \eta_v$$

$$N = \frac{Q \cdot P}{600 \cdot \eta_t}$$

$$M = \frac{V \cdot P}{62,83 \cdot \eta_m}$$

$$\eta_t = \eta_m \cdot \eta_v$$

Tavsiye Edilen Verim  
Recommended Efficiency

$$\eta_v = \%95 (\approx 0,95)$$

$$\eta_m = \%87 - \%90 (\approx 0,87 - \approx 0,90)$$

$$\eta_t = \%82 (\approx 0,82)$$

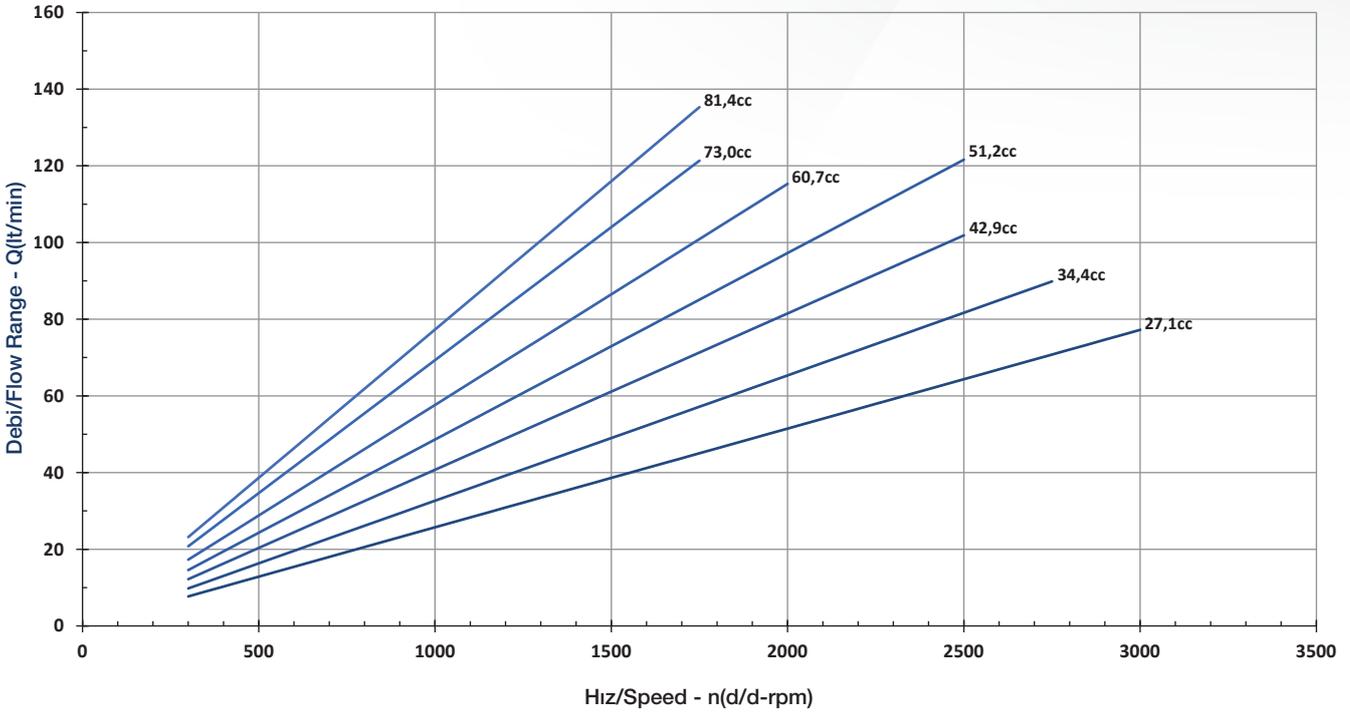
Pompa Tipi Pump Type	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç / Max. Pressure			Maks. Hız Max. Speed	Min. Hız Min. Speed
		P1	P2	P3		
		bar			d/d (rpm)	
GPRN30.027	27,1	290	310	330	3000	300
GPRN30.034	34,4	280	300	320	2750	300
GPRN30.043	42,9	270	290	310	2500	300
GPRN30.051	51,2	240	260	280	2500	300
GPRN30.061	60,7	220	240	260	2000	300
GPRN30.073	73,0	200	220	240	1750	300
GPRN30.082	81,4	200	210	230	1750	300

P1	Sürekli Çalışma Basıncı
	Continuous Pressure

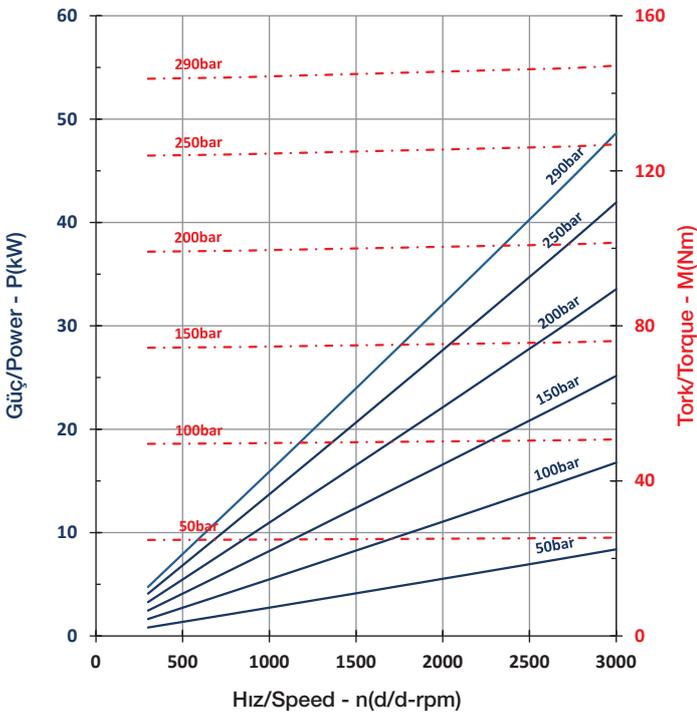
P2	Aralıklı Çalışma Basıncı
	Intermittent Pressure

P3	Ani Basınç
	Peak Pressure

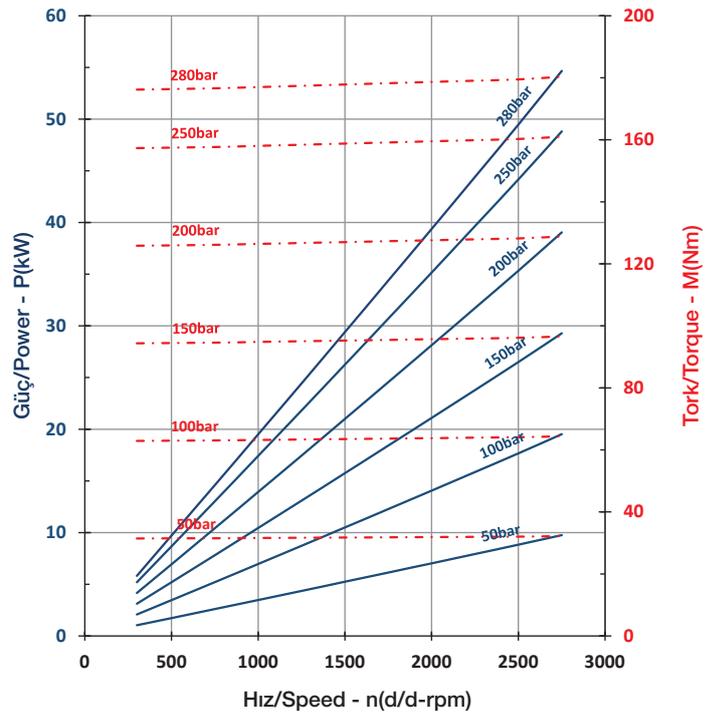
GPRN30 POMPALARIN DEBİ EĞRİLERİ / FLOW CURVES OF GPRN30 PUMPS



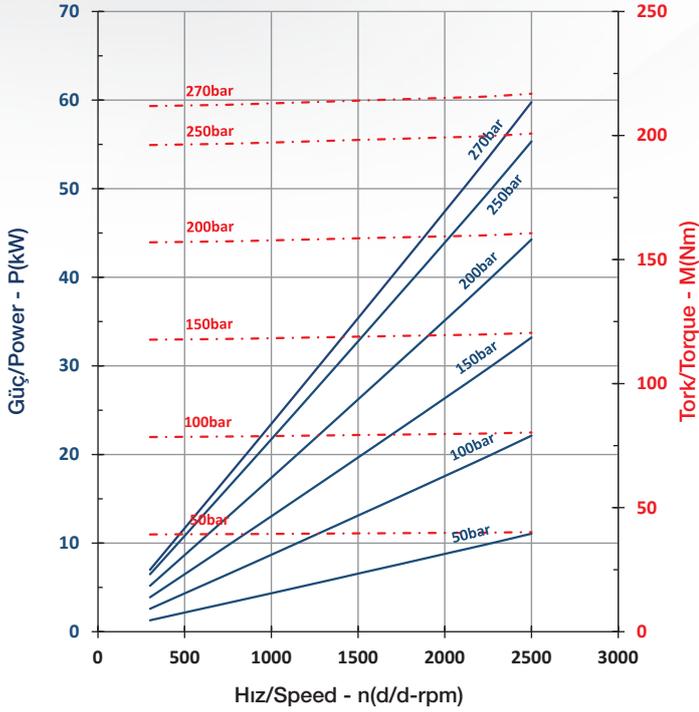
**GPRN30.027**



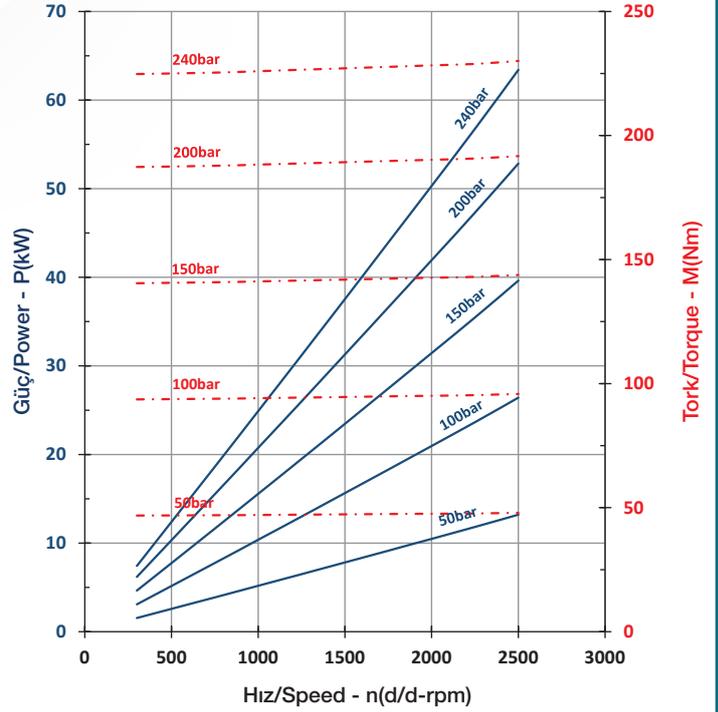
**GPRN30.034**



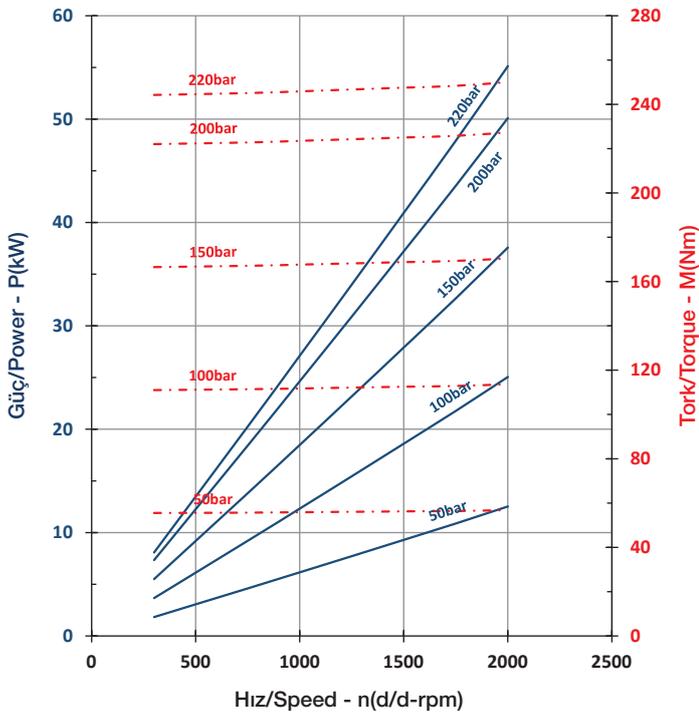
GPRN30.043



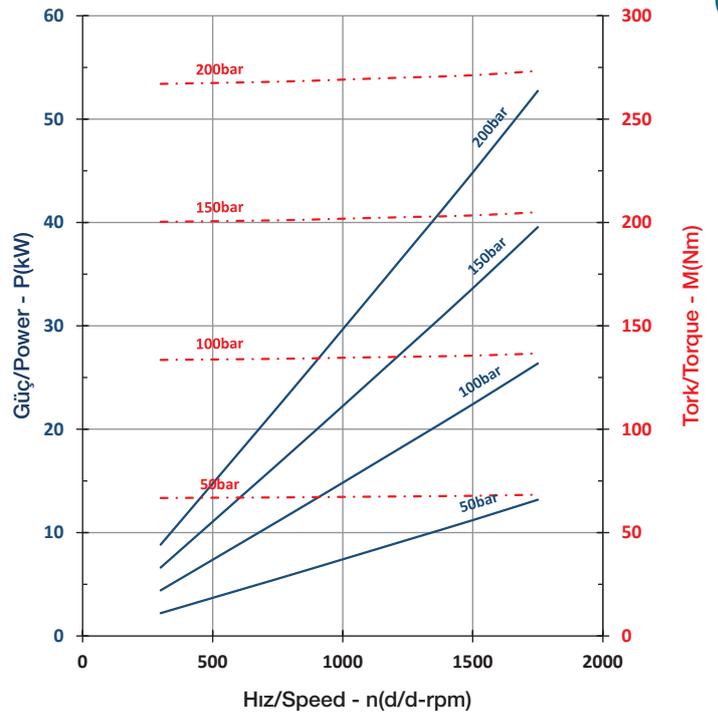
GPRN30.051



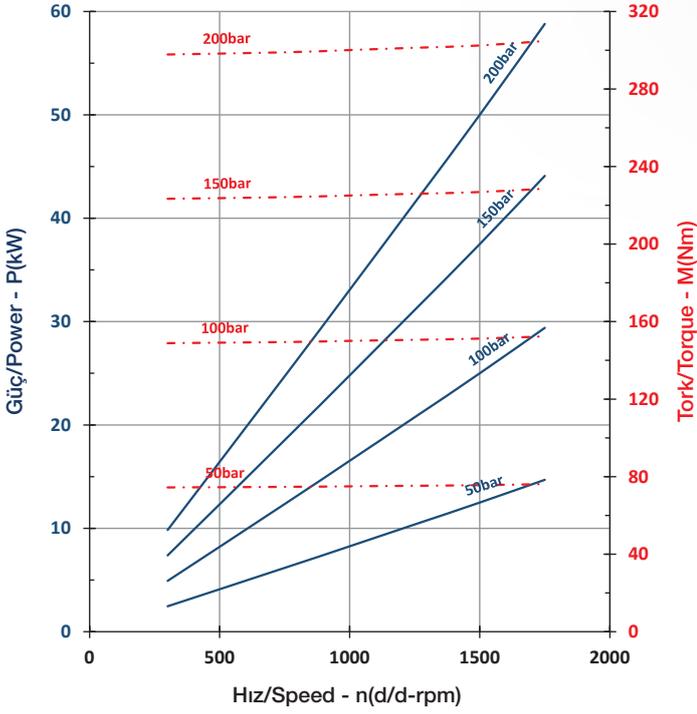
GPRN30.061



GPRN30.073



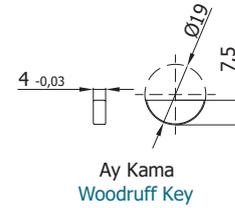
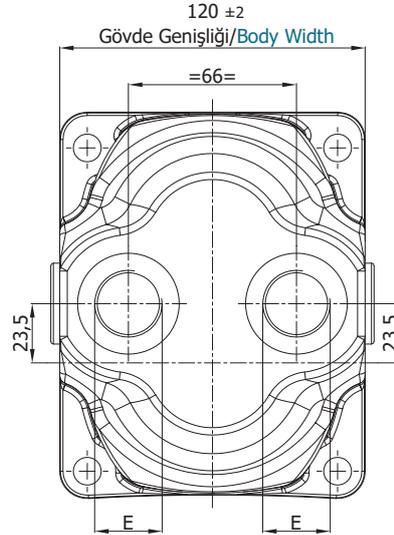
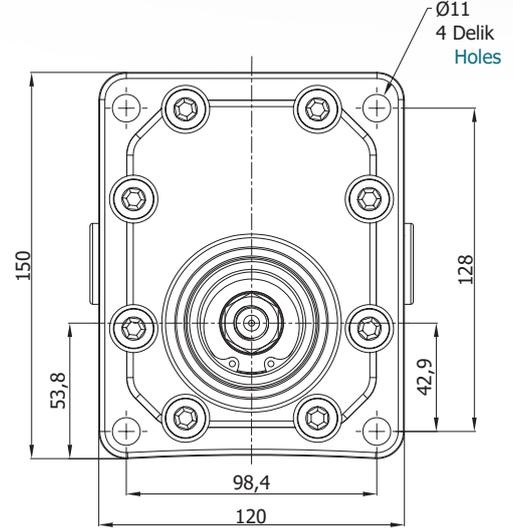
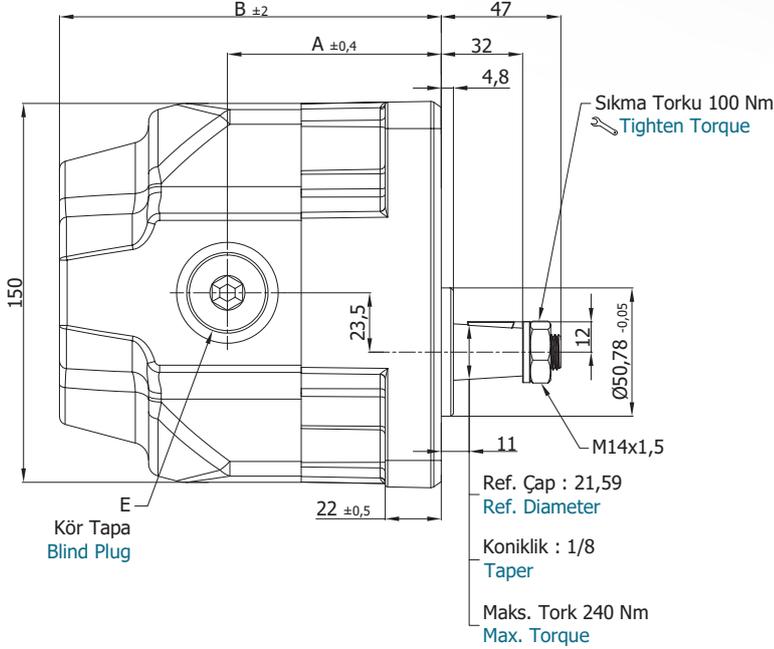
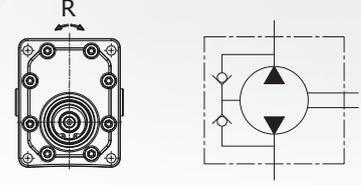
GPRN30.082





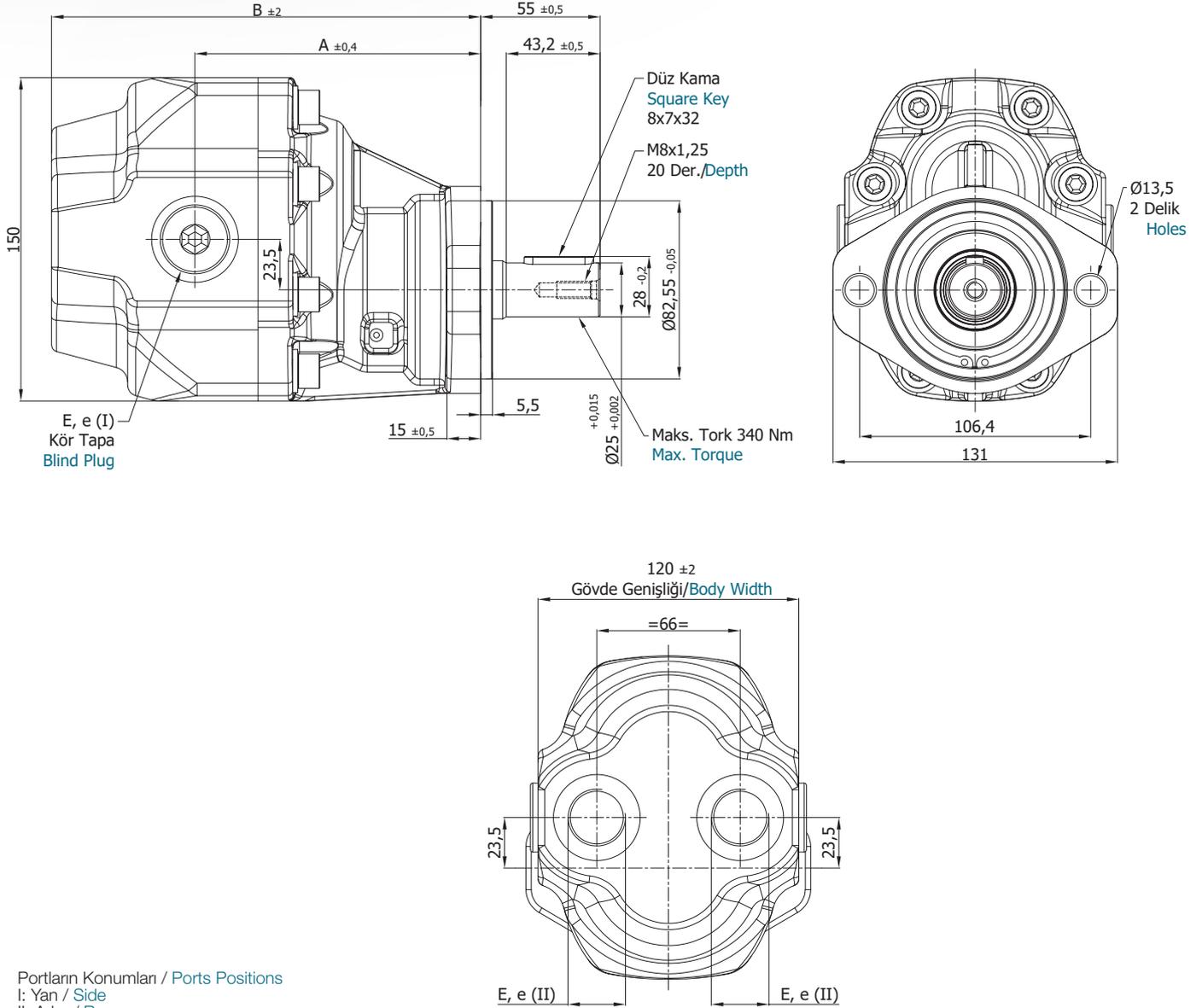
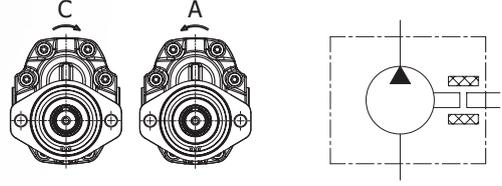
**A** Ön Kapak  
Front Cover

**B1** Şaft Tipi  
Shaft Type



Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±2	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
						E	E
GPRN30.027.RAB1N	27,1	290	3000	76,7	133,0	G 3/4	G 3/4
GPRN30.034.RAB1N	34,4	280	2750	79,0	137,5		
GPRN30.043.RAB1N	42,9	270	2500	81,9	143,2		
GPRN30.051.RAB1N	51,2	240	2000	84,0	148,5	G 1	G 1
GPRN30.061.RAB1N	60,7	220		87,7	154,9		
GPRN30.073.RAB1N	73,0	200		91,6	162,6		
GPRN30.082.RAB1N	81,4			94,5	168,4		

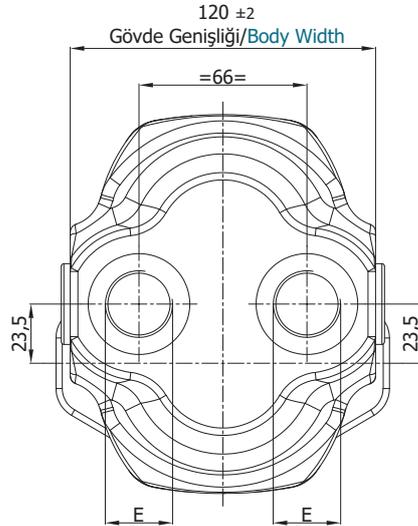
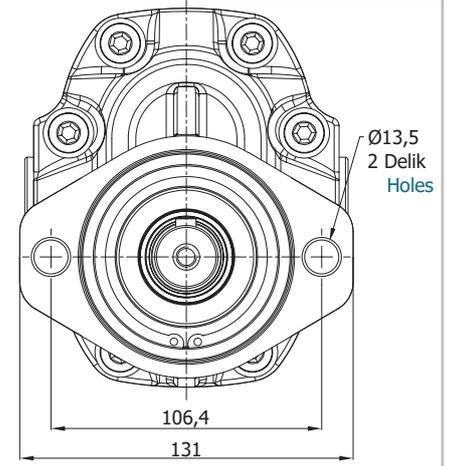
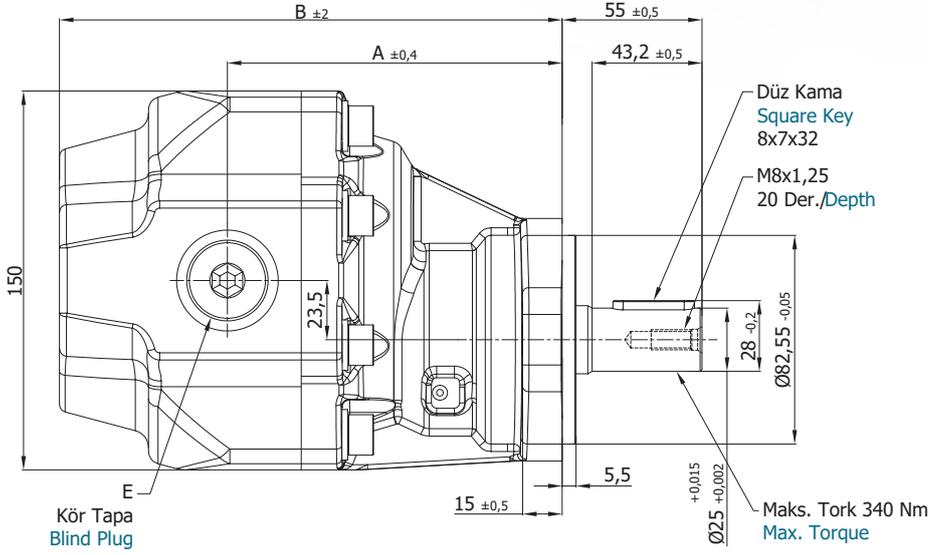
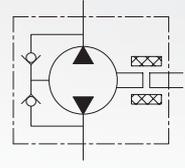
**D** Ön Kapak  
 Front Cover

**S** Şaft Tipi  
 Shaft Type

 Portların Konumları / Ports Positions  
 I: Yan / Side  
 II: Arka / Rear

Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hiz Max. Speed d/d (rpm)	A $\pm 0,4$	B $\pm 2$	Giriş – Inlet (ISO 228-1)		Çıkış – Outlet (ISO 228-1)	
						E (I)	E (II)	e (I)	e (II)
GPRN30.027.A/CDSN	27,1	290	3000	124,2	180,5			G 1/2	G 1/2
GPRN30.034.A/CDSN	34,4	280	2750	126,5	185,0	G 3/4	G 3/4	G 3/4	G 3/4
GPRN30.043.A/CDSN	42,9	270	2500	129,4	190,7	G 1	G 1		
GPRN30.051.A/CDSN	51,2	240		131,5	196,0				
GPRN30.061.A/CDSN	60,7	220	2000	135,2	202,4				
GPRN30.073.A/CDSN	73,0	200	1750	139,1	210,1	G 1 1/4			
GPRN30.082.A/CDSN	81,4			142,0	215,9				

**D** Ön Kapak  
Front Cover

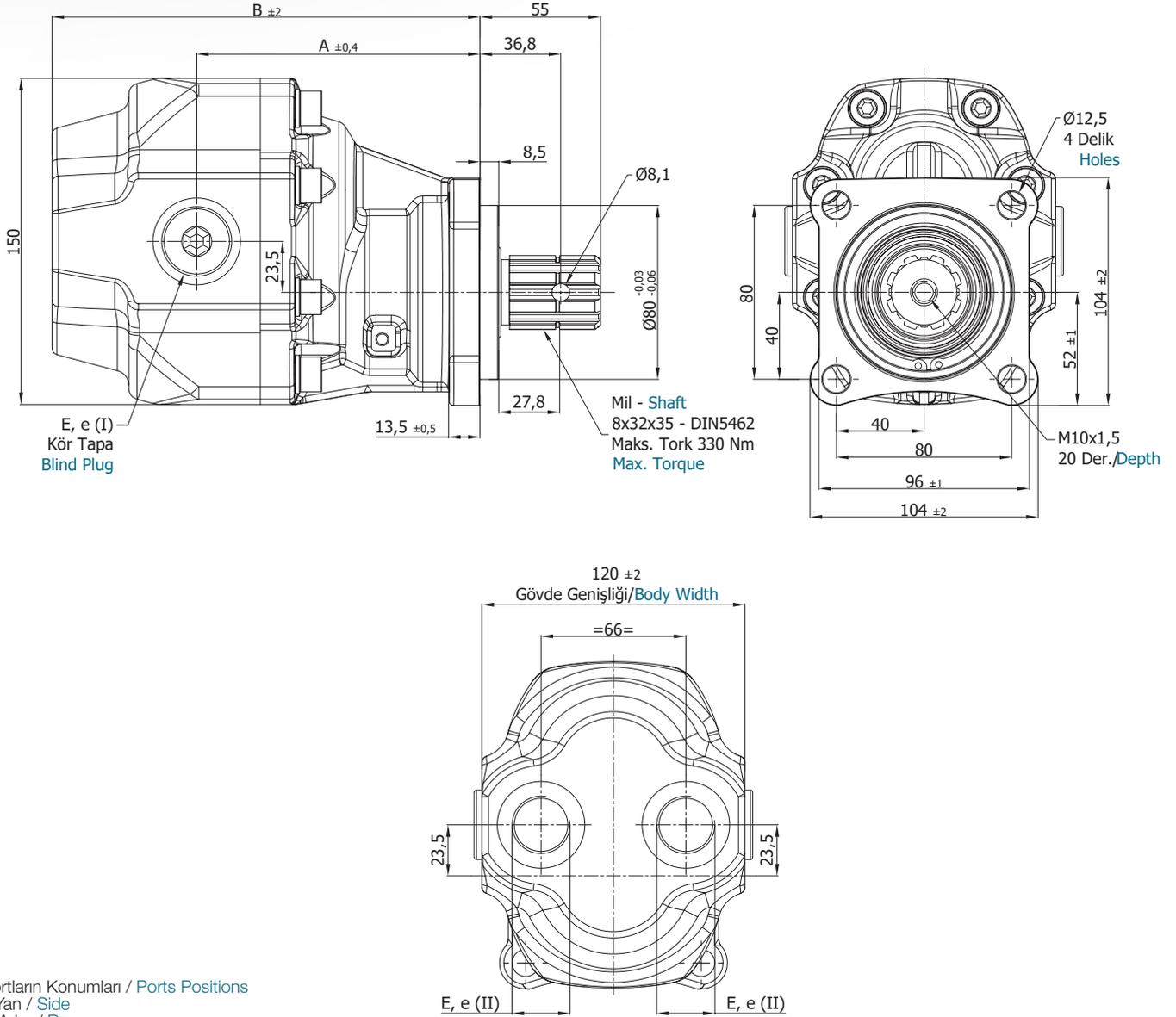
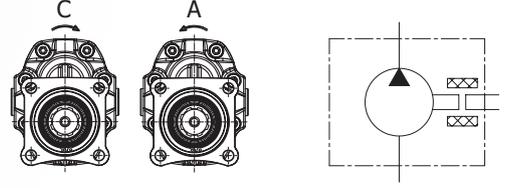
**S** Şaft Tipi  
Shaft Type



Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±2	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)	
						E	E	
GPRN30.027.RDSN	27,1	290	3000	124,2	180,5	G 3/4	G 3/4	
GPRN30.034.RDSN	34,4	280	2750	126,5	185,0			
GPRN30.043.RDSN	42,9	270	2500	129,4	190,7			
GPRN30.051.RDSN	51,2	240	2000	131,5	196,0	G 1	G 1	
GPRN30.061.RDSN	60,7	220		135,2	202,4			
GPRN30.073.RDSN	73,0	200		1750	139,1			210,1
GPRN30.082.RDSN	81,4			1750	142,0			215,9

**R** Ön Kapak  
 Front Cover

**M1** Şaft Tipi  
 Shaft Type

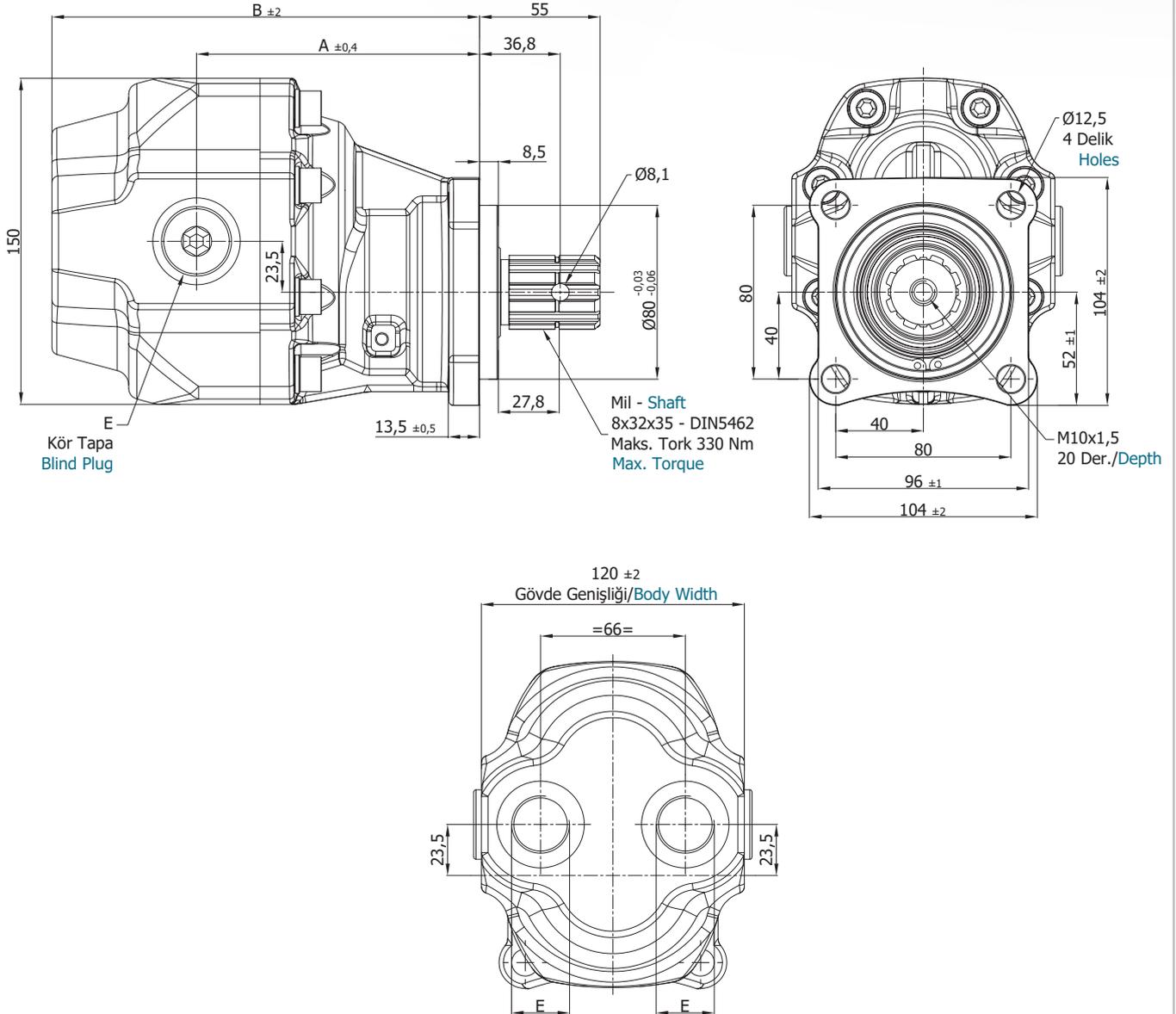
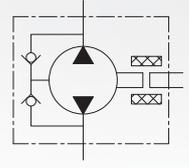
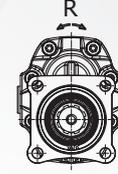
**ISO**

 Portların Konumları / Ports Positions  
 I: Yan / Side  
 II: Arka / Rear

Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A $\pm 0,4$	B $\pm 2$	Giriş – Inlet (ISO 228-1)		Çıkış – Outlet (ISO 228-1)	
						E (I)	E (II)	e (I)	e (II)
GPRN30.027.A/CRM1N	27,1	290	3000	122,2	178,5			G 1/2	G 1/2
GPRN30.034.A/CRM1N	34,4	280	2750	124,5	183,0	G 3/4	G 3/4	G 3/4	G 3/4
GPRN30.043.A/CRM1N	42,9	270	2500	127,4	188,7				
GPRN30.051.A/CRM1N	51,2	240		129,5	194,0				
GPRN30.061.A/CRM1N	60,7	220	2000	133,2	200,4	G 1	G 1		
GPRN30.073.A/CRM1N	73,0	200	1750	137,1	208,1	G 1 1/4			
GPRN30.082.A/CRM1N	81,4			140,0	213,9				

**R** Ön Kapak  
Front Cover

**M1** Saft Tipi  
Shaft Type

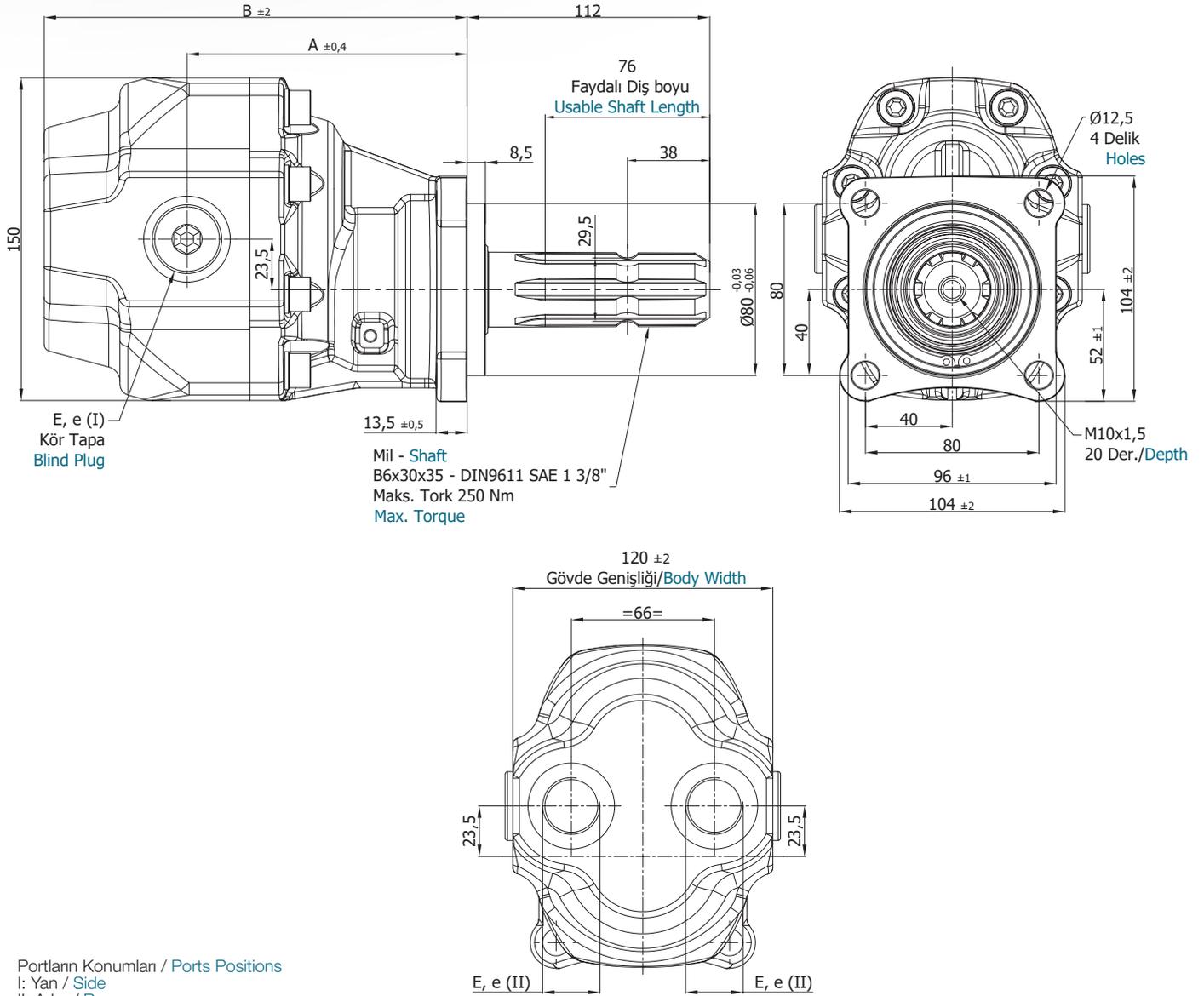
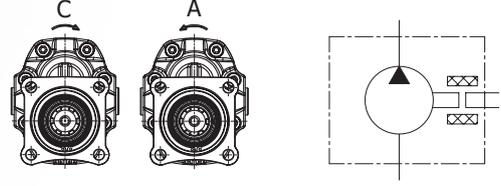
**ISO**



Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±2	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
						E	E
GPRN30.027.RRM1N	27,1	290	3000	122,2	178,5	G 3/4	G 3/4
GPRN30.034.RRM1N	34,4	280	2750	124,5	183,0		
GPRN30.043.RRM1N	42,9	270	2500	127,4	188,7		
GPRN30.051.RRM1N	51,2	240	2000	129,5	194,0	G 1	G 1
GPRN30.061.RRM1N	60,7	220		133,2	200,4		
GPRN30.073.RRM1N	73,0	200		137,1	208,1		
GPRN30.082.RRM1N	81,4			140,0	213,9		

**R** Ön Kapak  
 Front Cover

**S2** Şaft Tipi  
 Shaft Type

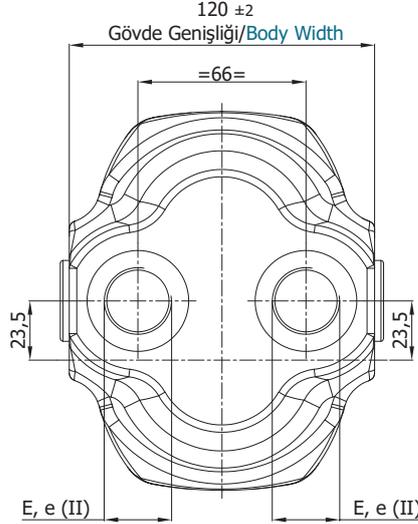
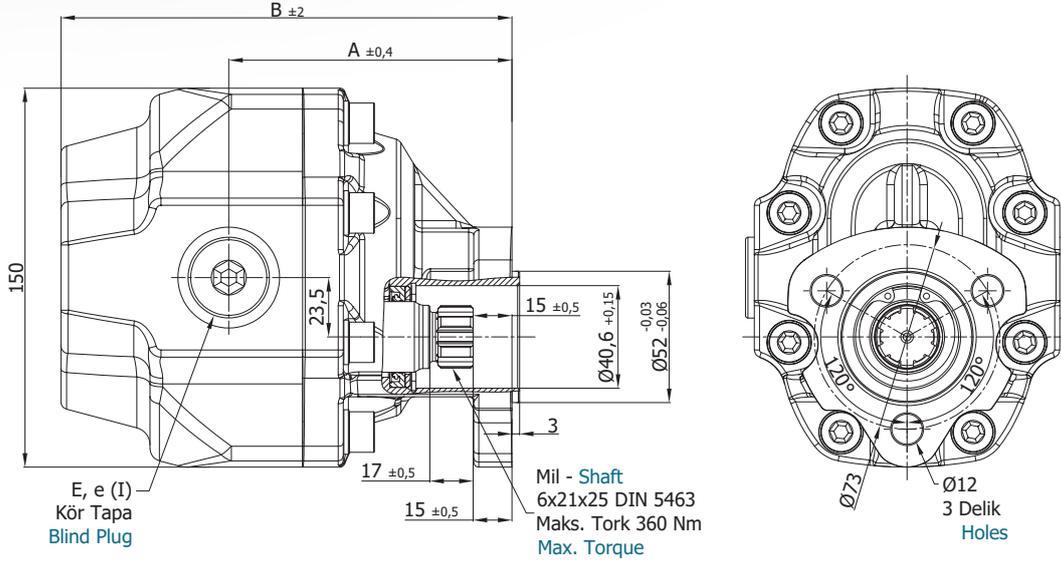
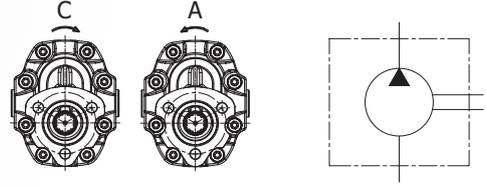
**SAE**

 Portların Konumları / Ports Positions  
 I: Yan / Side  
 II: Arka / Rear

Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A $\pm 0,4$	B $\pm 2$	Giriş – Inlet (ISO 228-1)		Çıkış – Outlet (ISO 228-1)		
						E (I)	E (II)	e (I)	e (II)	
GPRN30.027.A/CRS2N	27,1	290	3000	122,2	178,5			G 1/2	G 1/2	
GPRN30.034.A/CRS2N	34,4	280	2750	124,5	183,0	G 3/4	G 3/4			
GPRN30.043.A/CRS2N	42,9	270	2500	127,4	188,7					
GPRN30.051.A/CRS2N	51,2	240		129,5	194,0					
GPRN30.061.A/CRS2N	60,7	220	2000	133,2	200,4	G 1	G 1	G 3/4	G 3/4	
GPRN30.073.A/CRS2N	73,0	200	1750	137,1	208,1					
GPRN30.082.A/CRS2N	81,4			140,0	213,9	G 1 1/4				



**S** Ön Kapak  
Front Cover

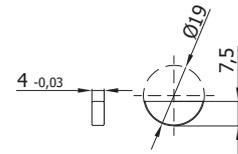
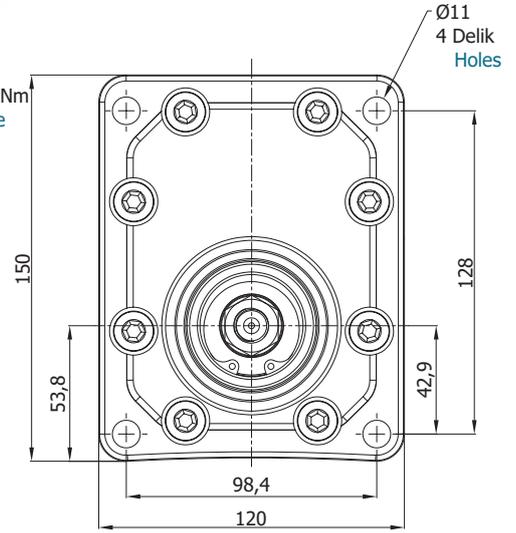
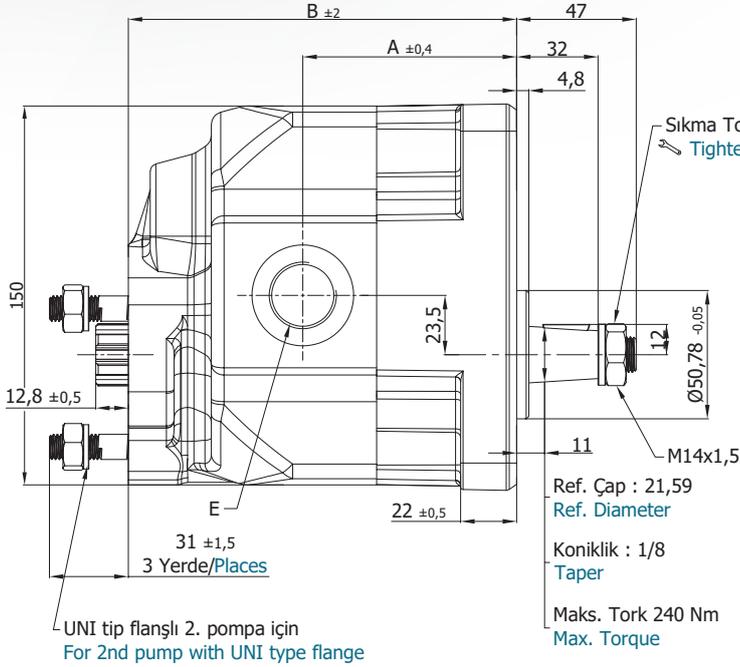
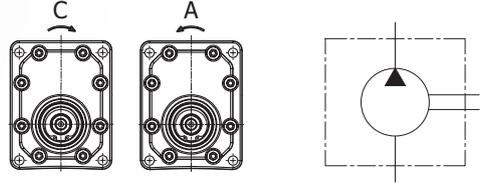
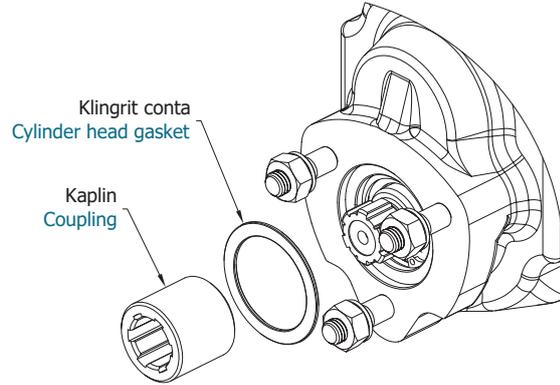
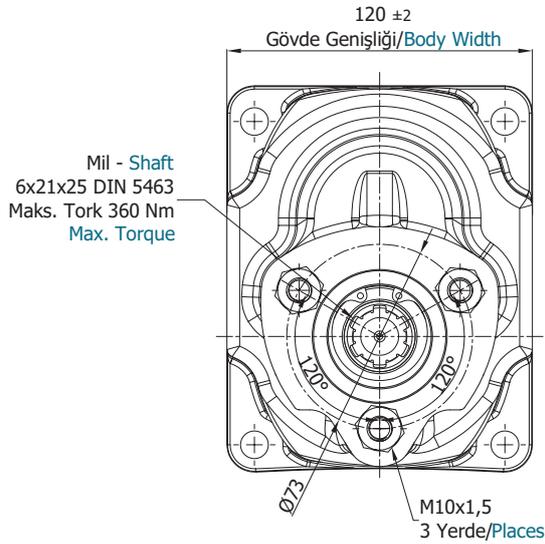
**T1** Saft Tipi  
Shaft Type

**UNI**

 Portların Konumları / Ports Positions  
 I: Yan / Side  
 II: Arka / Rear

Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±2	Giriş – Inlet (ISO 228-1)		Çıkış – Outlet (ISO 228-1)	
						E (I)	E (II)	e (I)	e (II)
GPRN30.027.A/CST1N	27,1	290	3000	104,0	160,3	G 3/4	G 3/4	G 1/2	G 1/2
GPRN30.034.A/CST1N	34,4	280	2750	106,3	164,8			G 3/4	G 3/4
GPRN30.043.A/CST1N	42,9	270	2500	109,2	170,5	G 1	G 1	G 3/4	G 3/4
GPRN30.051.A/CST1N	51,2	240		111,3	175,8				
GPRN30.061.A/CST1N	60,7	220	2000	115,0	182,2				
GPRN30.073.A/CST1N	73,0	200	1750	118,9	189,9	G 1 1/4			
GPRN30.082.A/CST1N	81,4			121,8	195,7				



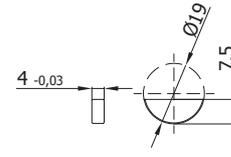
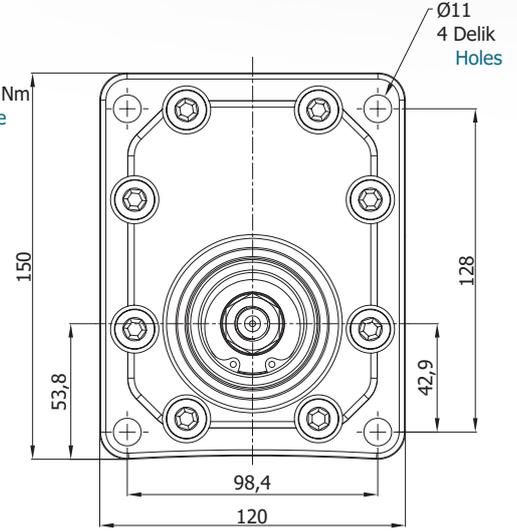
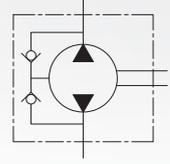
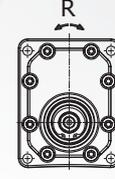
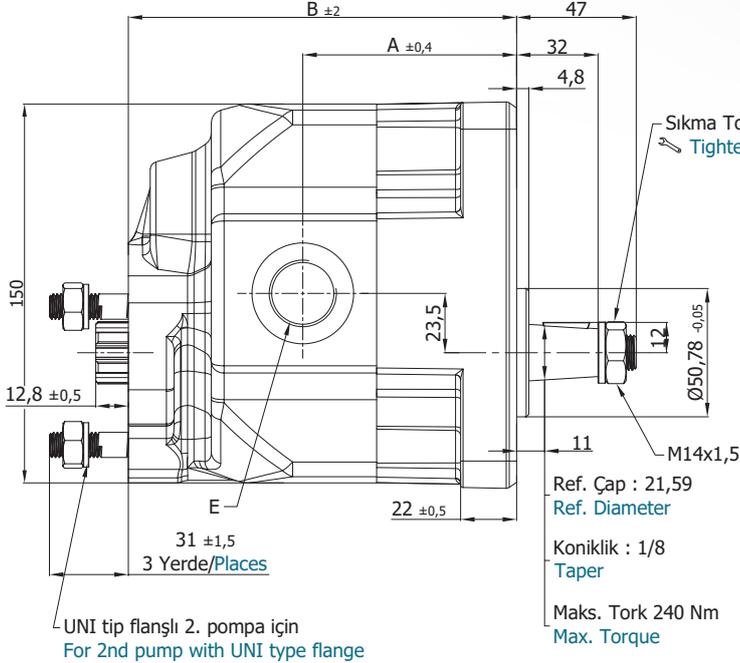
**A** Ön Kapak  
Front Cover

**B1** Şaft Tipi  
Shaft Type

Ay Kama  
Woodruff Key


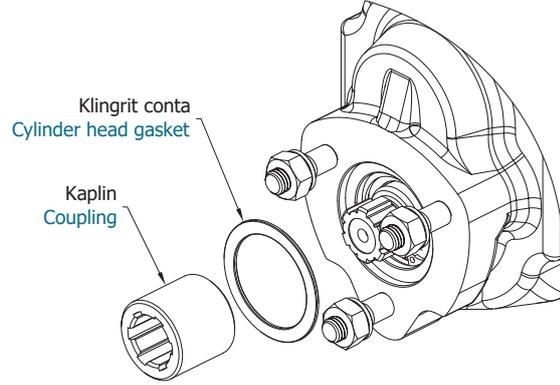
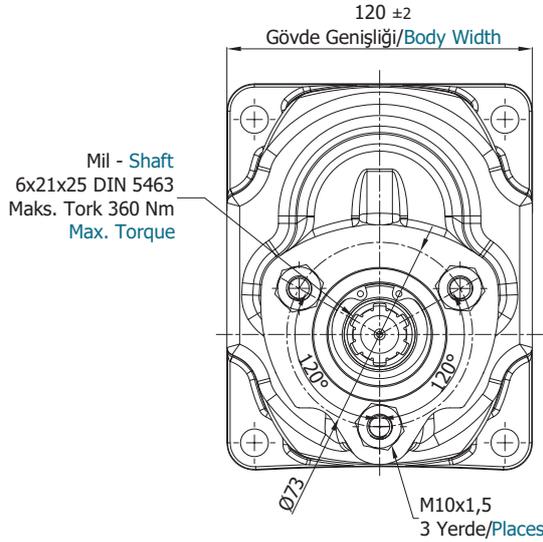
Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±2	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
						E	E
GPRN30.027.A/CAB1N-FP	27,1	290	3000	76,7	137,1	G 3/4	G 1/2
GPRN30.034.A/CAB1N-FP	34,4	280	2750	79,0	141,6		G 3/4
GPRN30.043.A/CAB1N-FP	42,9	270	2500	81,9	147,3		
GPRN30.051.A/CAB1N-FP	51,2	240		84,0	152,6		
GPRN30.061.A/CAB1N-FP	60,7	220	2000	87,7	159,0		
GPRN30.073.A/CAB1N-FP	73,0	200	1750	91,6	166,7		
GPRN30.082.A/CAB1N-FP	81,4			94,5	172,5	G 1 1/4	

**A** Ön Kapak  
Front Cover

**B1** Şaft Tipi  
Shaft Type



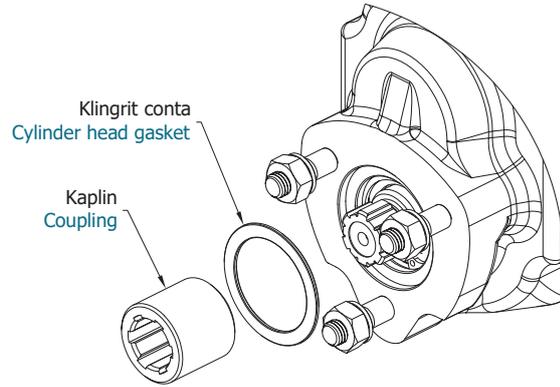
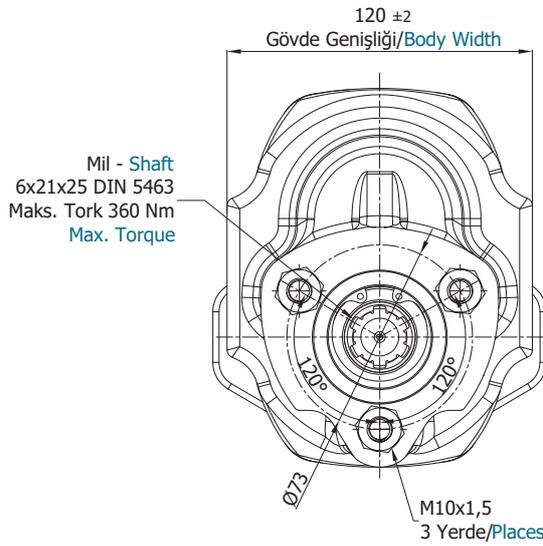
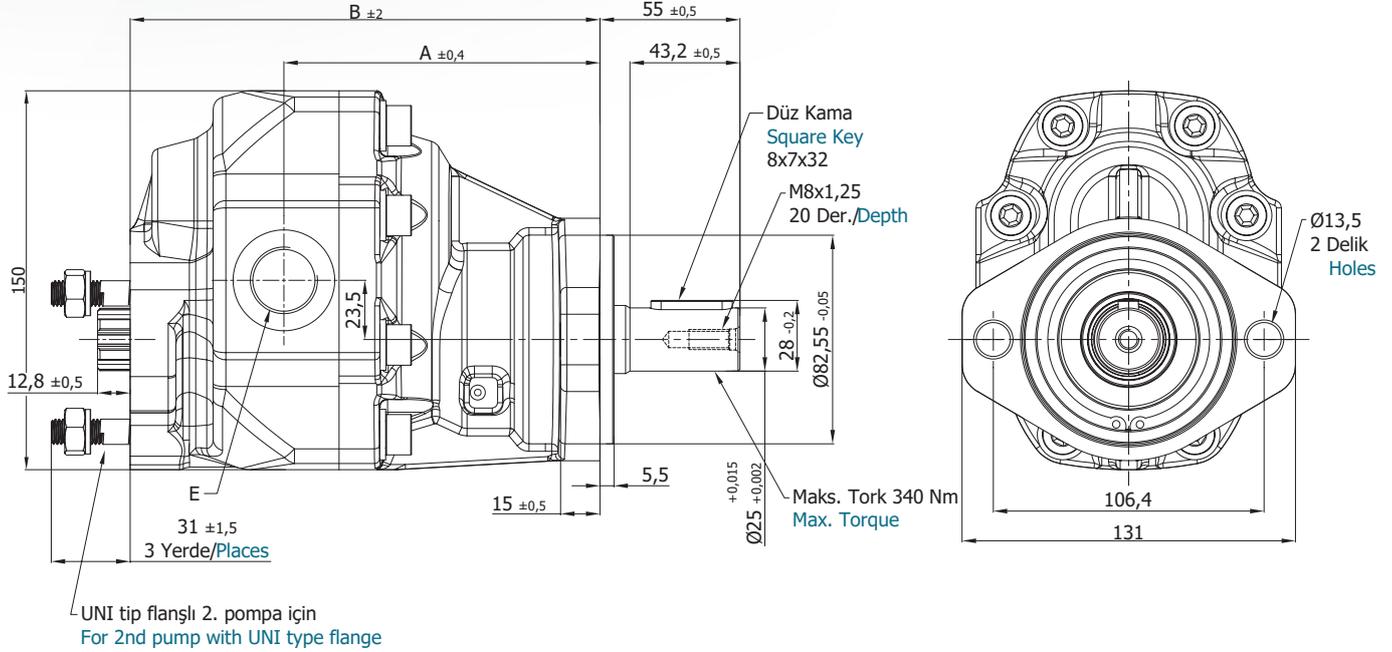
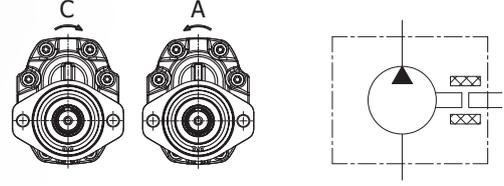
Ay Kama  
Woodruff Key



Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±2	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
						E	E
GPRN30.027.RAB1N-FP	27,1	290	3000	76,7	137,1	G 3/4	G 3/4
GPRN30.034.RAB1N-FP	34,4	280	2750	79,0	141,6		
GPRN30.043.RAB1N-FP	42,9	270	2500	81,9	147,3		
GPRN30.051.RAB1N-FP	51,2	240	2000	84,0	152,6	G 1	G 1
GPRN30.061.RAB1N-FP	60,7	220		87,7	159,0		
GPRN30.073.RAB1N-FP	73,0	200		91,6	166,7		
GPRN30.082.RAB1N-FP	81,4			94,5	172,5		

**D** Ön Kapak  
Front Cover

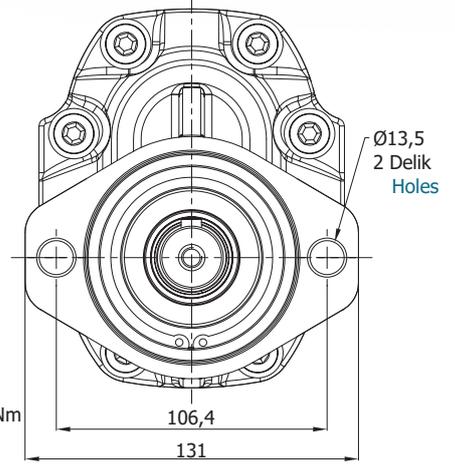
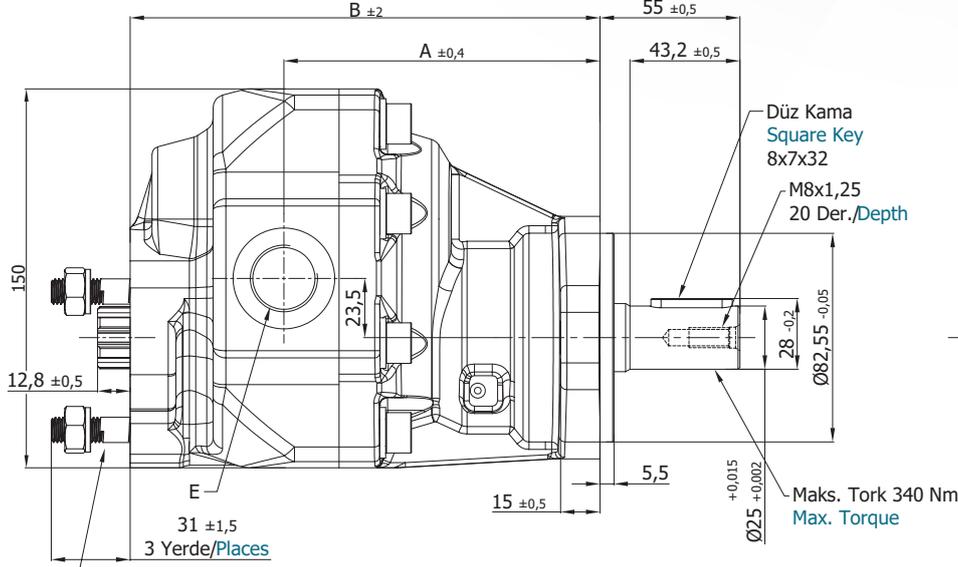
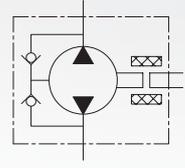
**S** Şaft Tipi  
Shaft Type



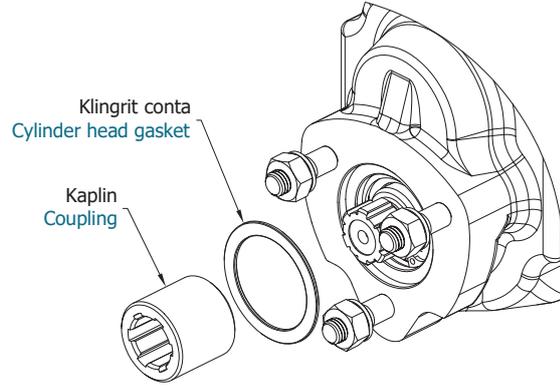
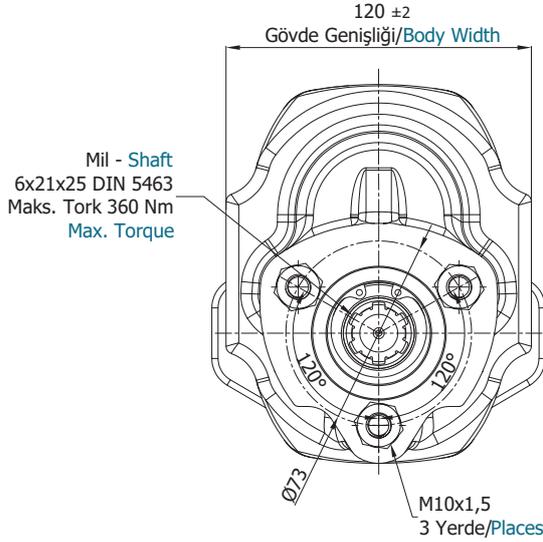
Pompa Kodu Pump Code	İletim Hacmi Displacement $\text{cm}^3/\text{dev}$ ( $\text{cm}^3/\text{rev}$ )	Maks. Basınç Max. Pressure (bar)	Maks. Hiz Max. Speed d/d (rpm)	A $\pm 0,4$	B $\pm 2$	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
						E	E
GPRN30.027.A/CDSN-FP	27,1	290	3000	124,2	184,6	G 3/4	G 1/2
GPRN30.034.A/CDSN-FP	34,4	280	2750	126,5	189,1		
GPRN30.043.A/CDSN-FP	42,9	270	2500	129,4	194,8		
GPRN30.051.A/CDSN-FP	51,2	240	2000	131,5	200,1	G 1	G 3/4
GPRN30.061.A/CDSN-FP	60,7	220		135,2	206,5		
GPRN30.073.A/CDSN-FP	73,0	200		1750	139,1		
GPRN30.082.A/CDSN-FP	81,4		1750	142,0	220,0	G 1 1/4	

**D** Ön Kapak  
Front Cover

**S** Şaft Tipi  
Shaft Type



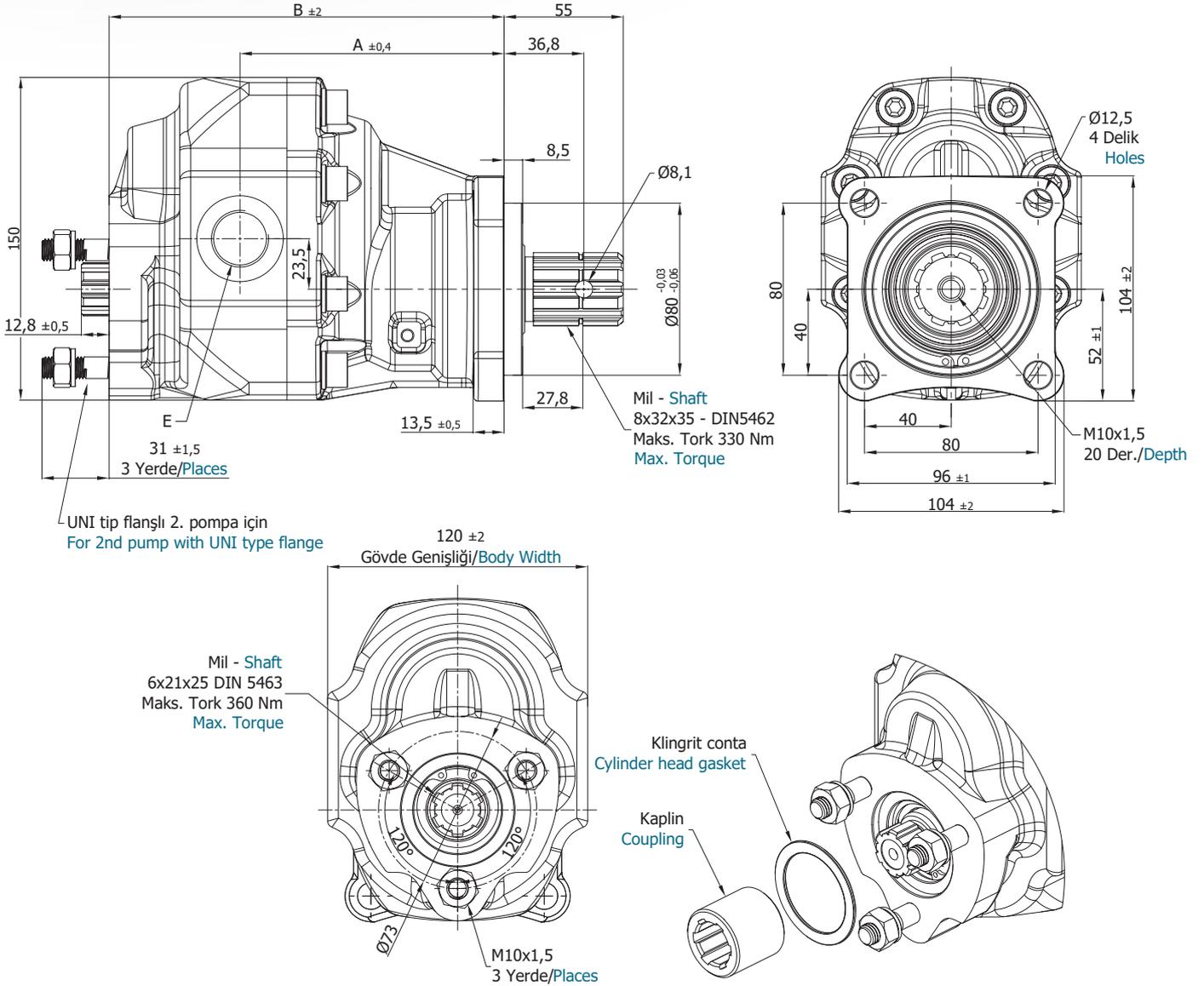
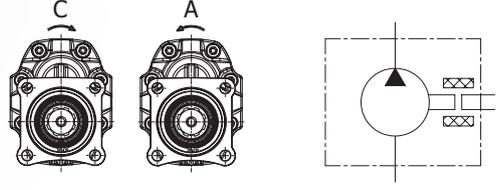
UNI tip flanşlı 2. pompa için  
For 2nd pump with UNI type flange



Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hiz Max. Speed d/d (rpm)	A $\pm 0,4$	B $\pm 2$	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)	
						E	E	
GPRN30.027.RDSN-FP	27,1	290	3000	124,2	184,6	G 3/4	G 3/4	
GPRN30.034.RDSN-FP	34,4	280	2750	126,5	189,1			
GPRN30.043.RDSN-FP	42,9	270	2500	129,4	194,8			
GPRN30.051.RDSN-FP	51,2	240	2000	131,5	200,1	G 1	G 1	
GPRN30.061.RDSN-FP	60,7	220		135,2	206,5			
GPRN30.073.RDSN-FP	73,0	200		1750	139,1			214,2
GPRN30.082.RDSN-FP	81,4			142,0	220,0			

**R** Ön Kapak  
Front Cover

**M1** Şaft Tipi  
Shaft Type

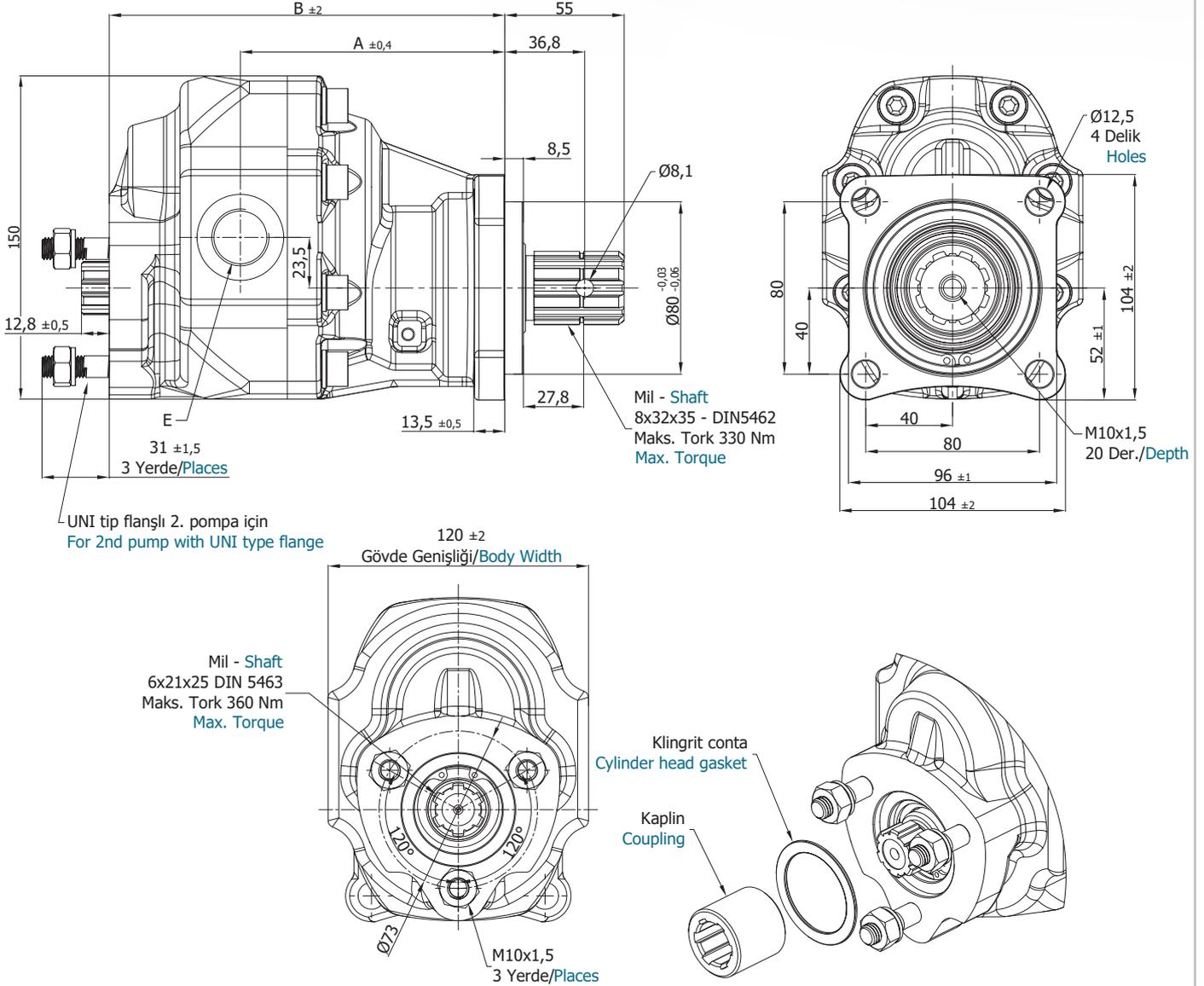
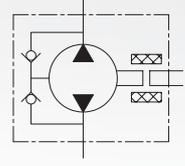
**ISO**


Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hiz Max. Speed d/d (rpm)	A ±0,4	B ±2	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
						E	E
GPRN30.027.A/CRM1N-FP	27,1	290	3000	122,2	182,6	G 3/4	G 1/2
GPRN30.034.A/CRM1N-FP	34,4	280	2750	124,5	187,1		G 1
GPRN30.043.A/CRM1N-FP	42,9	270	2500	127,4	192,8		
GPRN30.051.A/CRM1N-FP	51,2	240		129,5	198,1		
GPRN30.061.A/CRM1N-FP	60,7	220	2000	133,2	204,5		
GPRN30.073.A/CRM1N-FP	73,0	200	1750	137,1	212,2	G 1 1/4	
GPRN30.082.A/CRM1N-FP	81,4			140,0	218,0		

**R** Ön Kapak  
Front Cover

**M1** Saft Tipi  
Shaft Type

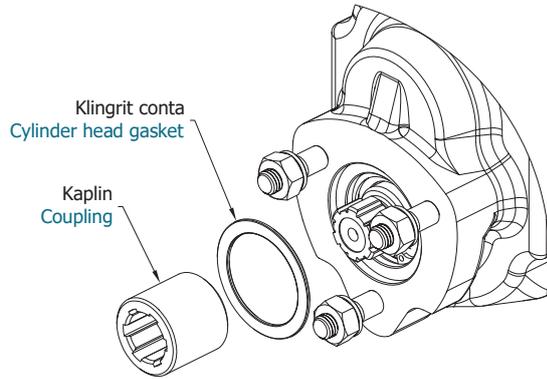
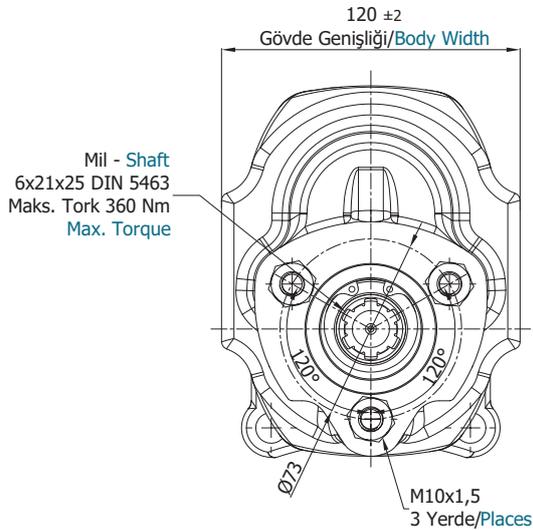
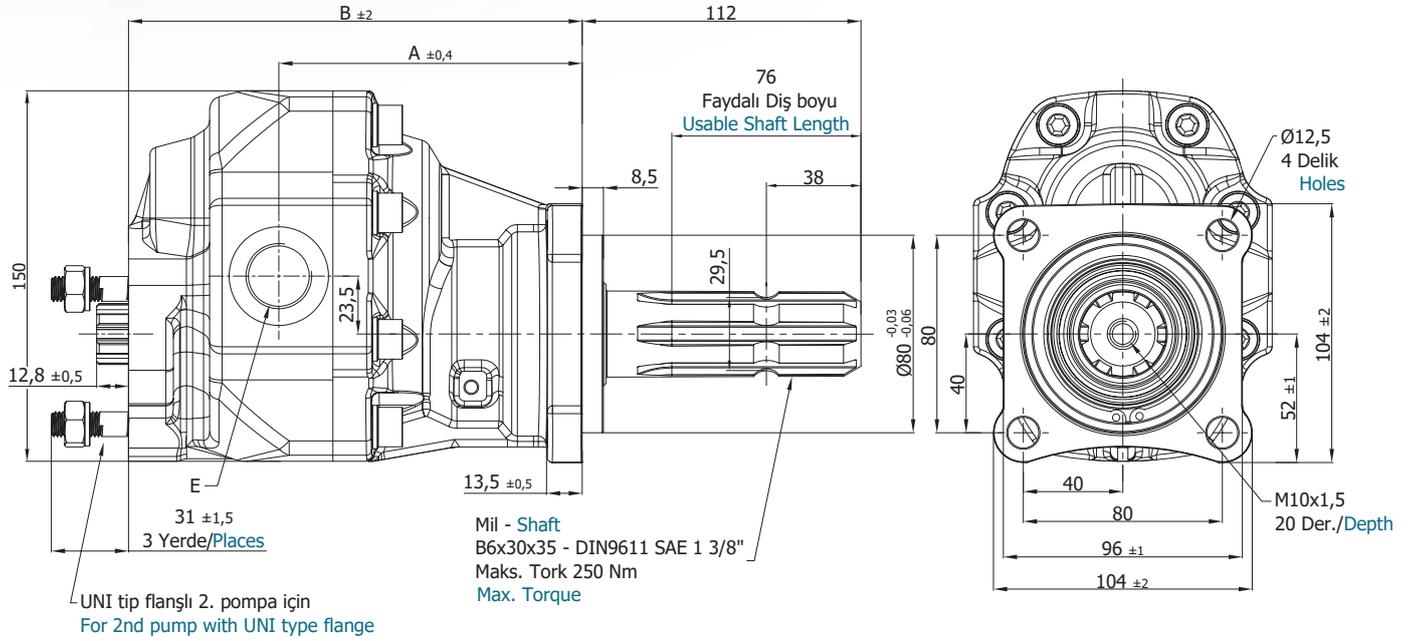
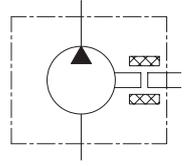
**ISO**



Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hiz Max. Speed d/d (rpm)	A ±0,4	B ±2	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
						E	E
GPRN30.027.RRM1N-FP	27,1	290	3000	122,2	182,6	G 3/4	G 3/4
GPRN30.034.RRM1N-FP	34,4	280	2750	124,5	187,1		
GPRN30.043.RRM1N-FP	42,9	270	2500	127,4	192,8		
GPRN30.051.RRM1N-FP	51,2	240	2000	129,5	198,1	G 1	G 1
GPRN30.061.RRM1N-FP	60,7	220		133,2	204,5		
GPRN30.073.RRM1N-FP	73,0	200		137,1	212,2		
GPRN30.082.RRM1N-FP	81,4			140,0	218,0		

**R** Ön Kapak  
Front Cover

**S2** Şaft Tipi  
Shaft Type

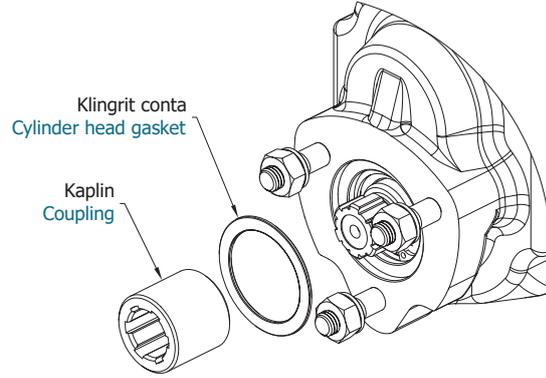
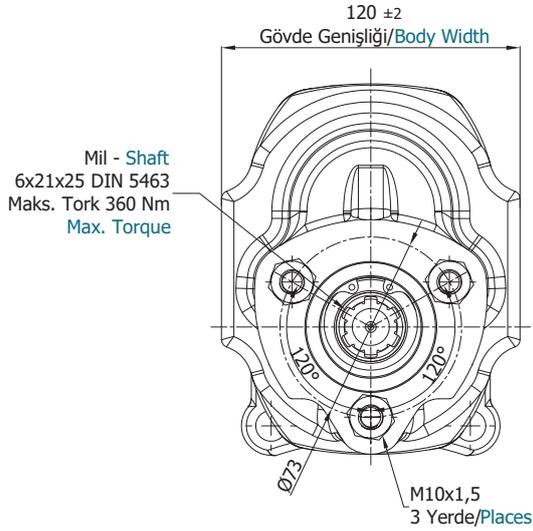
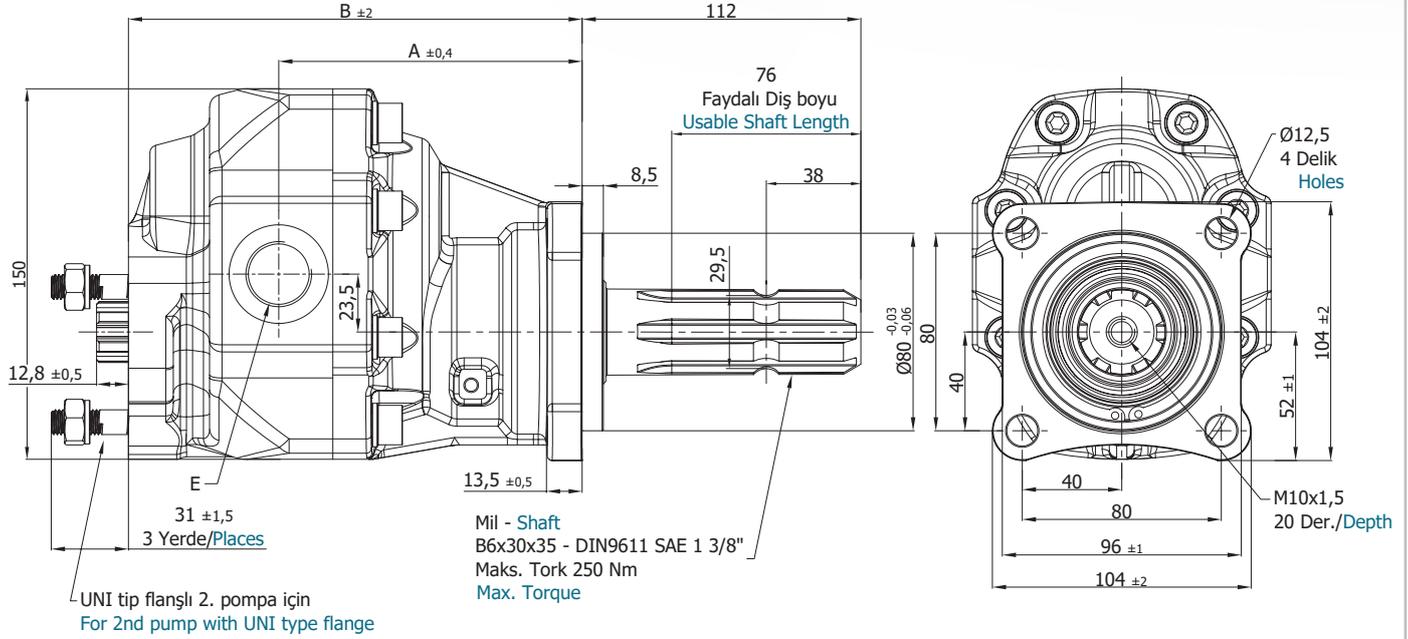
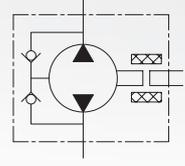
**SAE**


Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A $\pm 0,4$	B $\pm 2$	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
						E	E
GPRN30.027.A/CRS2N-FP	27,1	290	3000	122,2	182,6	G 3/4	G 1/2
GPRN30.034.A/CRS2N-FP	34,4	280	2750	124,5	187,1		
GPRN30.043.A/CRS2N-FP	42,9	270	2500	127,4	192,8	G 1	G 3/4
GPRN30.051.A/CRS2N-FP	51,2	240		129,5	198,1		
GPRN30.061.A/CRS2N-FP	60,7	220	2000	133,2	204,5	G 1 1/4	
GPRN30.073.A/CRS2N-FP	73,0	200	1750	137,1	212,2		
GPRN30.082.A/CRS2N-FP	81,4			140,0	218,0		

**R** Ön Kapak  
Front Cover

**S2** Şaft Tipi  
Shaft Type

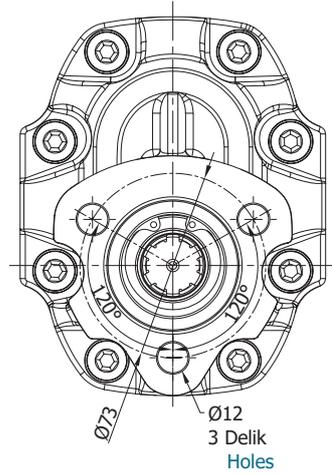
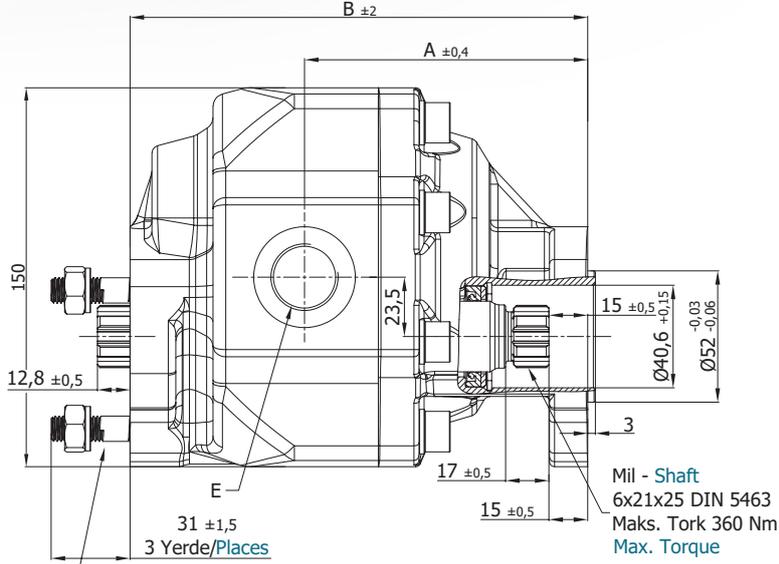
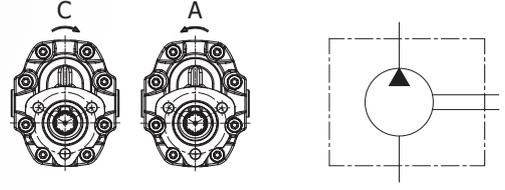
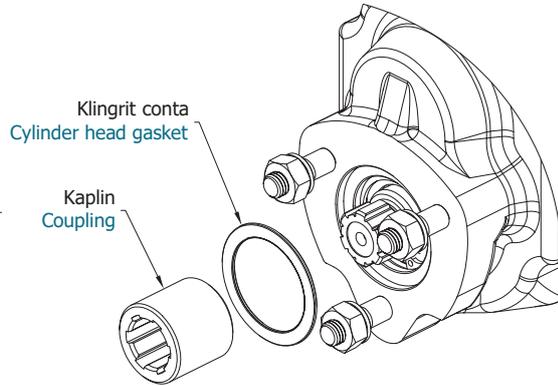
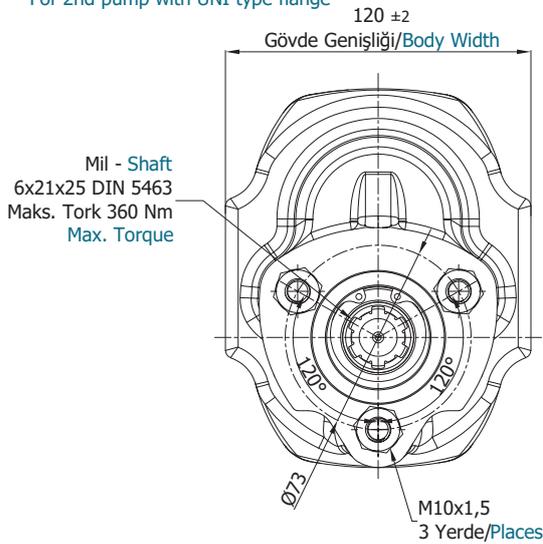
**SAE**



Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A $\pm 0,4$	B $\pm 2$	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
						E	E
GPRN30.027.RRS2N-FP	27,1	290	3000	122,2	182,6	G 3/4	G 3/4
GPRN30.034.RRS2N-FP	34,4	280	2750	124,5	187,1		
GPRN30.043.RRS2N-FP	42,9	270	2500	127,4	192,8		
GPRN30.051.RRS2N-FP	51,2	240	2000	129,5	198,1	G 1	G 1
GPRN30.061.RRS2N-FP	60,7	220		133,2	204,5		
GPRN30.073.RRS2N-FP	73,0	200		137,1	212,2		
GPRN30.082.RRS2N-FP	81,4			140,0	218,0		

**S** Ön Kapak  
Front Cover

**T1** Şaft Tipi  
Shaft Type

**UNI**

 UNI tip flanşlı 2. pompa için  
 For 2nd pump with UNI type flange


Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hiz Max. Speed d/d (rpm)	A $\pm 0,4$	B $\pm 2$	Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
						E	E
GPRN30.027.A/CST1N-FP	27,1	290	3000	104,0	164,4	G 3/4	G 1/2
GPRN30.034.A/CST1N-FP	34,4	280	2750	106,3	168,9		G 3/4
GPRN30.043.A/CST1N-FP	42,9	270	2500	109,2	174,6		
GPRN30.051.A/CST1N-FP	51,2	240		111,3	179,8		
GPRN30.061.A/CST1N-FP	60,7	220	2000	115,0	186,3		
GPRN30.073.A/CST1N-FP	73,0	200	1750	118,9	194,0		
GPRN30.082.A/CST1N-FP	81,4			121,8	199,8	G 1 1/4	

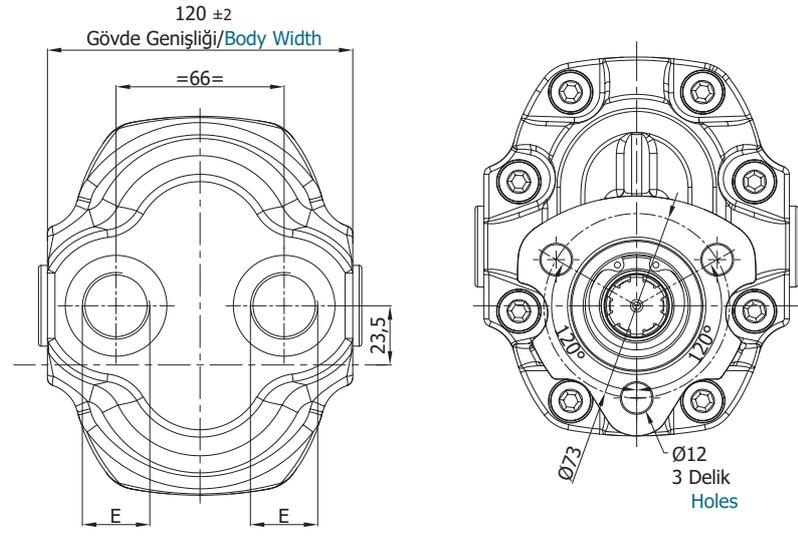
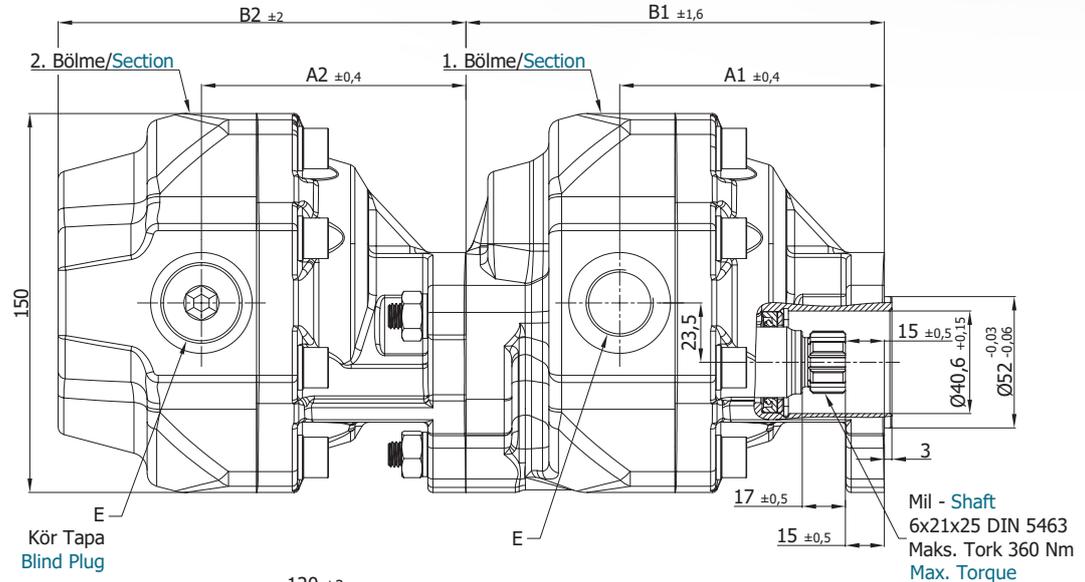
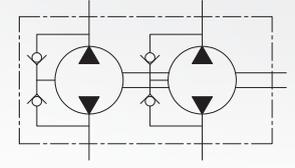




**S** Ön Kapak  
Front Cover

**T1** Saft Tipi  
Shaft Type

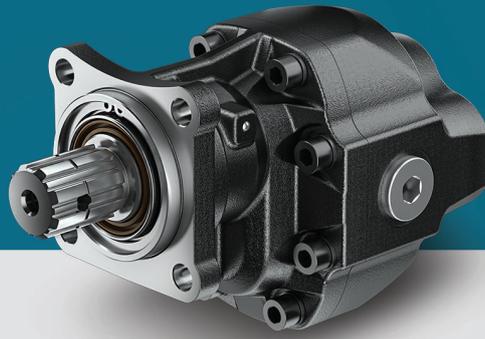
**UNI**



-Kodlama Örneği  
-Code Example

GPRN30.027/027.RST1N

Pompa Kodu Pump Code	İletim Hacmi Displacement cm <sup>3</sup> /dev (cm <sup>3</sup> /rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	1. Bölme/Section		2. Bölme/Section		Giriş – Inlet (ISO 228-1)	Çıkış – Outlet (ISO 228-1)
				A1 ±0,4	B1 ±1,6	A2 ±0,4	B2 ±2		
GPRN30.027.RST1N	27,1	290	3000	104,0	164,4	104,0	160,3	E	E
GPRN30.034.RST1N	34,4	280	2750	106,3	168,9	106,3	164,8	G 3/4	G 3/4
GPRN30.043.RST1N	42,9	270	2500	109,2	174,6	109,2	170,5		
GPRN30.051.RST1N	51,2	240	2000	111,3	179,8	111,3	175,8	G 1	G 1
GPRN30.061.RST1N	60,7	220		115,0	186,3	115,0	182,2		
GPRN30.073.RST1N	73,0	200		118,9	194,0	118,9	189,9		
GPRN30.082.RST1N	81,4		121,8	199,8	121,8	195,7			



**Ascend to Greater Value**  
Birlikte Daha Yüksekçe

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**Ascend to Greater Value**  
Birlikte Daha Yüksek

E, e (I)  
Kör Tapa  
Blind Plug

Mil - Shaft  
6x21x25 DIN 5463  
Maks. Tork 360 Nm  
Max. Torque

120  $\pm 2$   
Gövde Geniřliđi/Body Width

 **blue  
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hydraulics

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