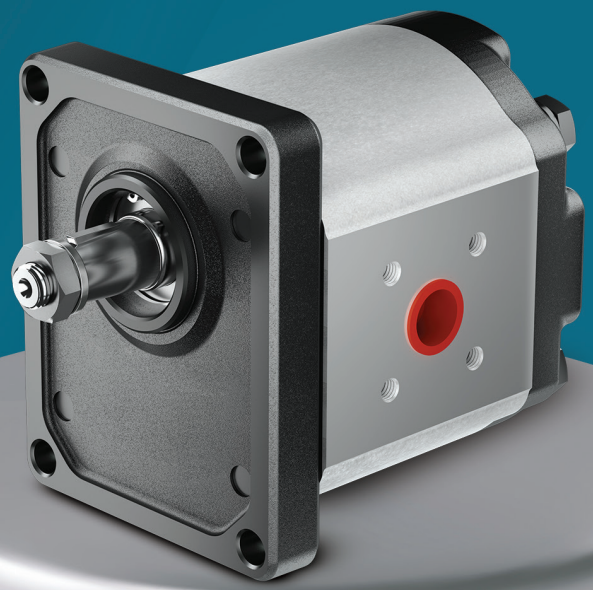
blue ascend hydraulics

AP30

TECHNICAL CATALOGUE

TEKNİK KATALOG

GEAR HYDRAULIC PUMPS



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AP30

TECHNICAL CATALOGUE

TEKNİK KATALOG

HYDRAULIC GEAR PUMPS

1. GENEL BİLGİLER

Blue Ascend dişli pompaları yüksek mukavemetli alüminyum alaşımlı gövde ekstrüzyon/döküm ve üç 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 varyantlar için farklı flanş ve dişliler ile çoklu pompa kombinasyonları mümkün olacaktır.

2. KONSTRÜKSİYON

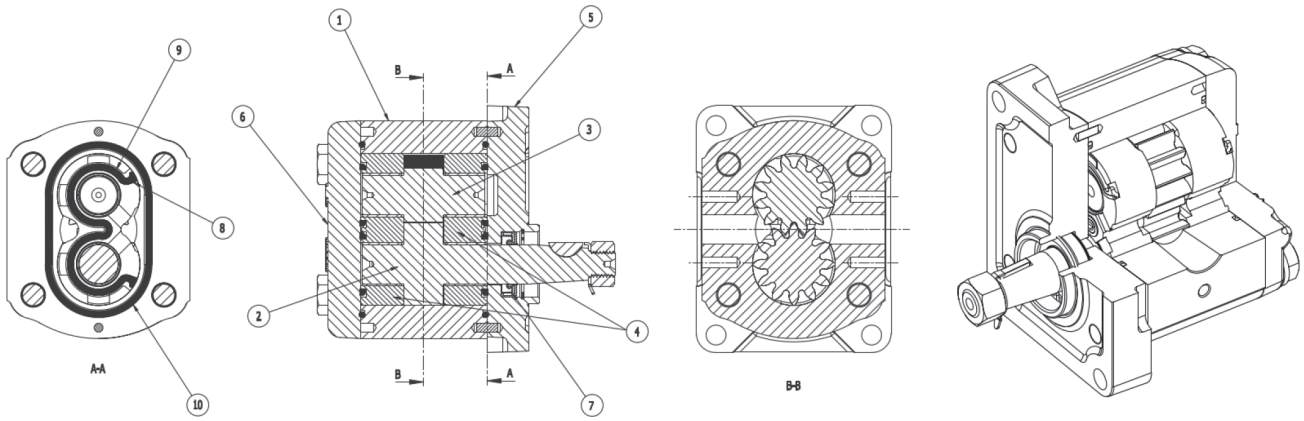
Dişli pompalar genellikle alüminyum veya döküm gövde, bir çift dişli, iki yataklama burcu, ön kapak ve arka kapaktan oluşur. Tahrik mili, ön kapaktan geçerek şaft keçesi ile sızdırmazlık sağlanmıştır. Yatak kuvvetleri, özel yatak esnekliği sayesinde temas hattı yerine yüzey teması oluşturmak için burç tarafından absorbe edilir. Pompa şaftında eksenel 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 gear pumps are composed of a high-strength aluminium alloy extruded/cast body and three 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 capacites 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

Gear pumps consist of an aluminium or cast body, a pair of gears, two bushing bearings, front cover, and a rear cover. The drive shaft passes through the front cover and is sealed with a shaft seal to ensure leak-tightness. Bearing forces are absorbed by the bushing through special bearing flexibility to create surface contact instead of a contact line. 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. Arka Kapak / Rear Cover
2. Tahrik Eden Dişli / Drive Gear	7. Şaft Keçesi / Shaft Seal
3. Tahrik Edilen Dişli / Driven Gear	8. Takviye Keçesi / Back Up Seals
4. Burç / Bushing	9. Burç Kulak Keçesi / Bush Lobe Seals
5. Ön Kapak / Front Cover	10. Gövde Keçesi / Body Seals

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

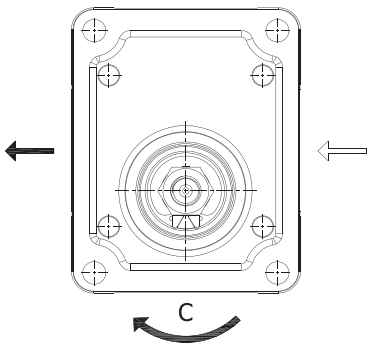
The direction of rotation of a gear pump is identified by looking at the pump from the front coverside and with the drive gear turned down (see figures below).

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.

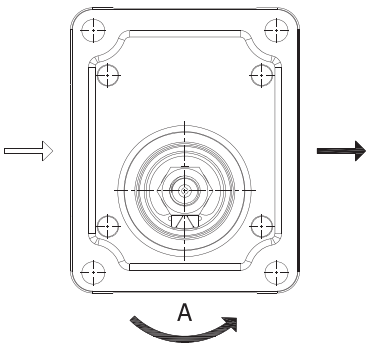
Pumps with counter-clockwise rotation (A) have a drive gear which turns counter-clockwise, with the suction port on the left and the pressure port on the right.

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.

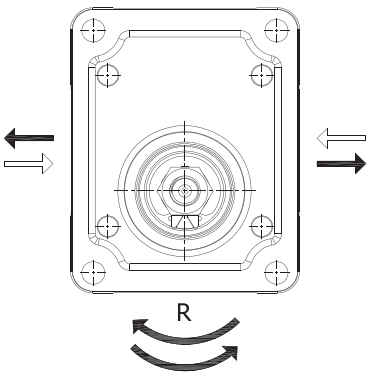
Sağ Dönüşlü Pompa
Clockwise Rotation

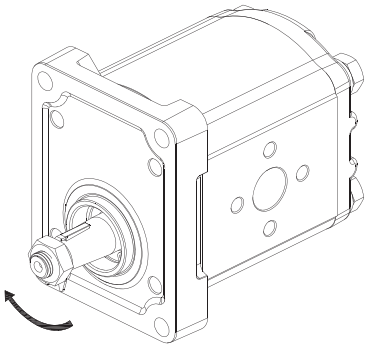


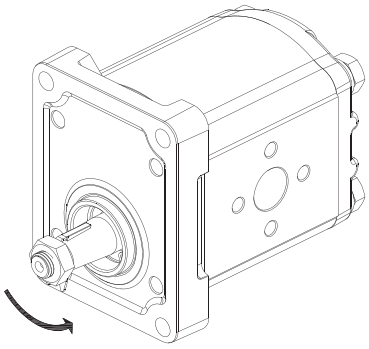
Sol Dönüşlü Pompa
Counter-clockwise Rotation

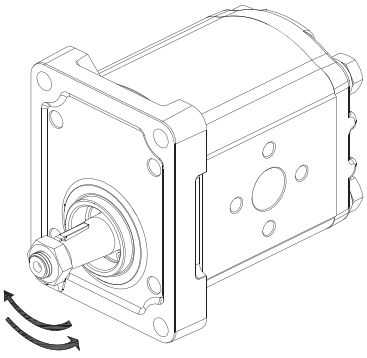


Çift Dönüşlü Pompa
Reversible Rotation









4. POMPANIN BAĞLANMASI

Pompalar, 2 veya 4 cıvata 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 şaftı üzerinde eksenel ve radyal yüklerin oluşmadığından emin olun.

► Sistemdeki emniyet valfleri ilk çalıştırmada en düşük seviyeye ayarlanmalıdır.

► Pompa için katalogda 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 4 or 2 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 complate 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.

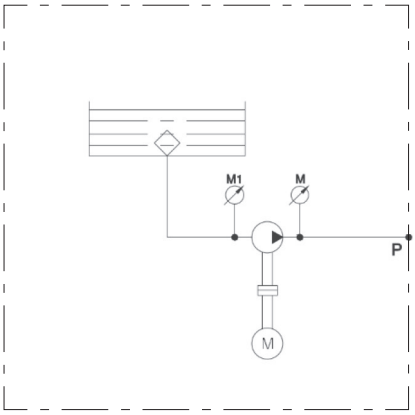
► The safety valves in the system should be set to the lowest level during the initial startup.

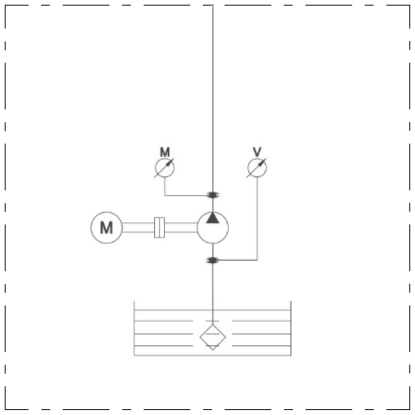
► For the pump, gradually increase pressure and speed until the operating values are reached, within the operating conditions specified in the catalog.

► 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 arasına ayırıcı konulabilir.

► Köpüklenmenin engellenmesi için tüm dönüş hatları, minimum yağ seviyesinin altında olmalıdır.

➔ 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.

➔ 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.

➔ 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. 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.

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. 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.

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)	ΔP > 170 bar	ΔP < 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 (ßx=75)	20 µm	25 µm

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.

➔ Cold Start

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

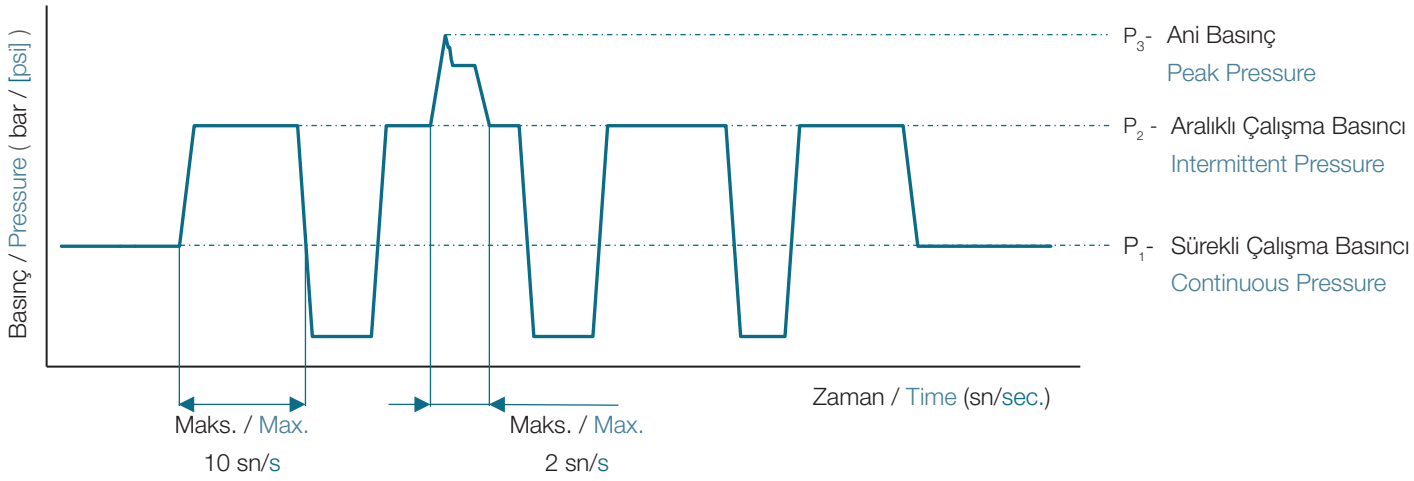
Minimum Giriş Basıncı / Minimum Inlet Pressure	0,7 bar (10 psi)
Maksimum Sızıntı Basıncı / Maximum Drain Pressure	+50% (Standart Değerler / Standard Values)
Minimum Sıcaklık / Minimum Temperature	-40 °C (-40 °F)
Maksimum Yağ Viskozitesi / Maximum Oil Viscosity	<2000 mm²/s (cst)

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

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

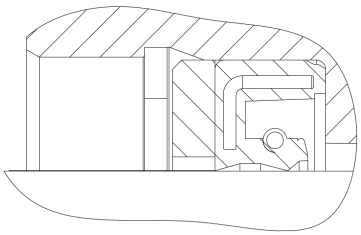
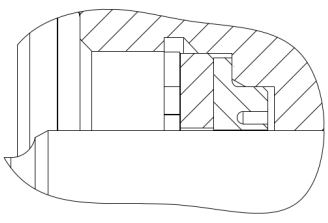
➔ Basınç Tanımlamaları

➔ Pressure Definitions



➔ Keçe Özellikleri

➔ Seal Specifications

	Standart Şaft Keçesi Standard Shaft Seal	Yüksek Basınçlı Şaft Keçesi High Pressure Shaft Seal
Tek ve Çift Yönlü Pompalar - Single and Reversible Rotation Pumps	Max 3 bar (44 psi) 	Max 25 bar (363 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.

➔ 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. 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 değişmeleri gibi hususların oluşturduğu akış hattı dirençleridir.

9. CAVITATION

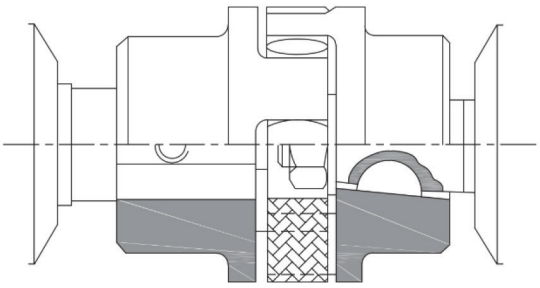
Hydraulic oil used in the majority of systems contains about 10% dissolved air by volume. This air under certain conditions of vacuum within the systems is released from the oil and will cause air bubbles. These air pockets collapse if then subjected to pressure and this collapse creates erosion of the 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. TAHRİK ŞEKİLLERİ

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

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.

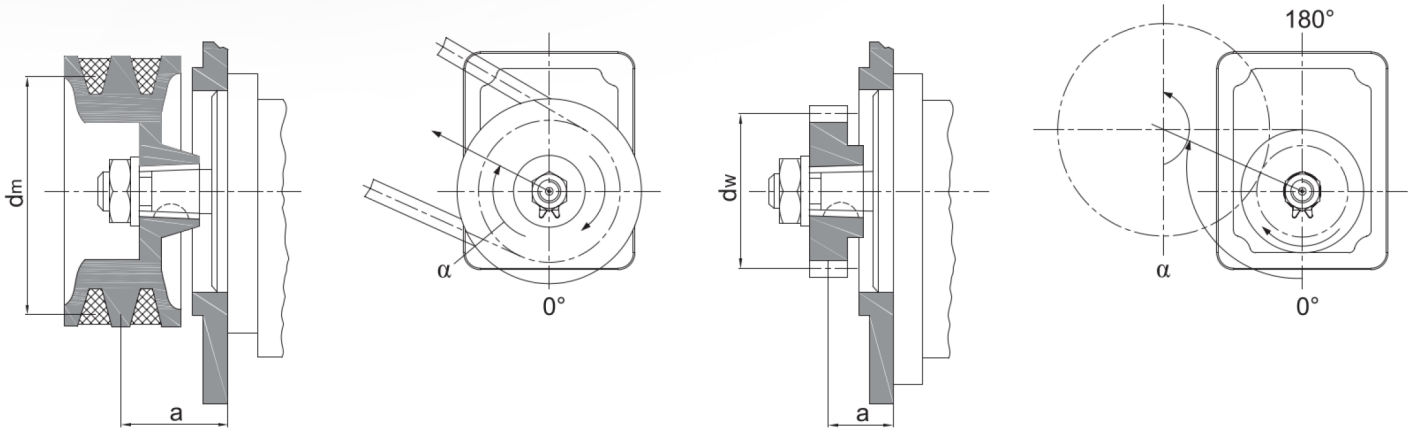


11. ÖN YATAKSIZ, KAYIŞ VE DİŞLİ İLE TAHRİK

V kayışı veya dış tahrik dişlisi ile pompa tahriki önerildiği zaman aşağıdaki uygulama detayına bakınız.

11. V-BELTS AND GEAR WHEELS WITHOUT OUTBOARD BEARING

When proposing to use V-belt or gear drive, please see figure below.

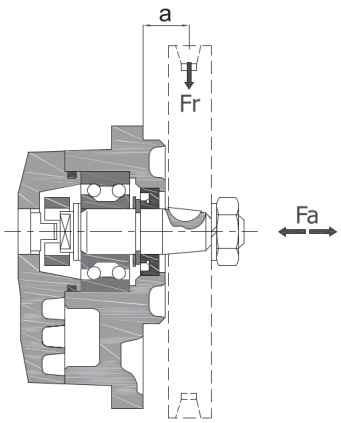


12. ÖN YATAK

V kayışı ve dış dişli ile tahrik edilen pompalarda oluşabilecek muhtemel problemler karşısında ön yatak kullanılmaktadır.

12. OUTBOARD BEARING

In pumps driven by V-belts and external gears, an outboard bearing is used to withstand potential problems that may arise.

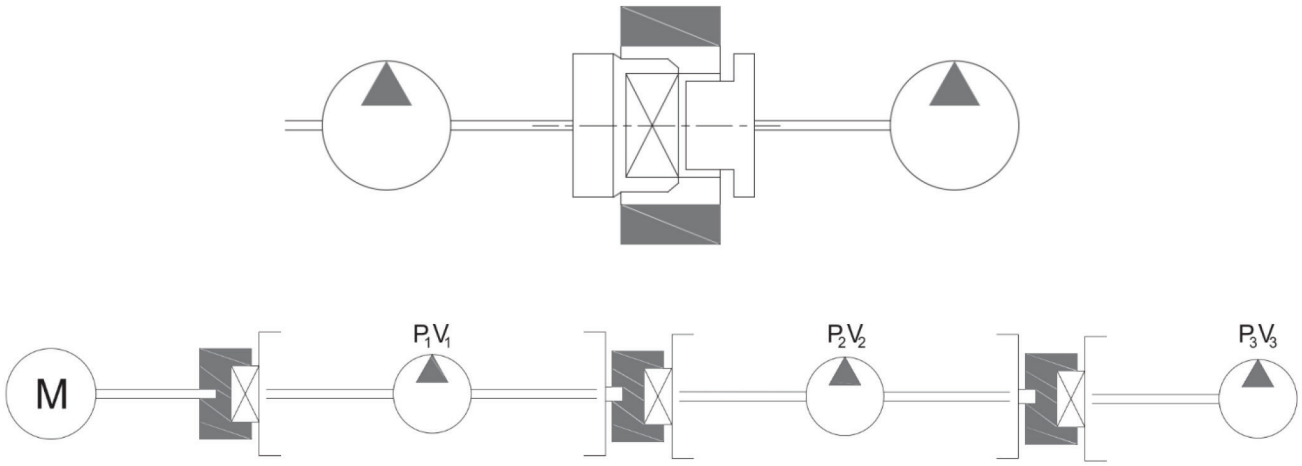


13. ÇOKLU TAHRİK EDEN DİŞLİ POMPALAR

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 sınırlandırılmıştır. Uygun değerler resimler üzerinde verilmiştir. Eğer öndeki pompanın tahrik eden dişlisi kesikli şaftlı ise ön yatak kullanılmalıdır. Pompaların basınç sınırlaması aşağıdaki formüle göre olacaktır.

13. 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. If the first stage of the pumps driven gear is getting the power through a tang drive shaft and outboard bearing must be used. The pressure limitations will be according to the formula below.



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

14. VALFLİ POMPALAR

Hidrolik direksiyon veya diğer uygulama sistemlerinde pompa üzerinde akış kontrol valfi, yük duyarlı valf veya emniyet valfini uygulamak mümkündür. Akış kontrol valflerinde, pompanın her devrinde debi sabit olacaktır. Fazla debi tekrar emiş tarafına geçmekte veya başka bir ekipmanda kullanılmak üzere valfin dışına alınabilmektedir.

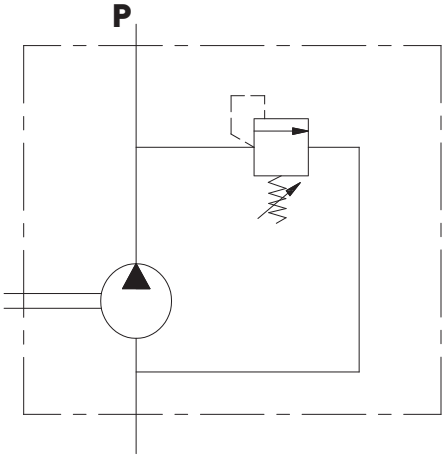
14. GEAR PUMPS WITH INTEGRAL VALVES

It is possible to apply a flow control valve, load sensing valve or relief valve on the gear pump of power steering or other application systems. On the flow control valves, the flow rate will be fixed at all speed of the pumps. The excess flow is either returned internally to the suction port or distributed externally to other items.

Basınç Hattı	***P**	Pressure Line
Kontrol Akışı (Hassasiyet ±15%)	***CF**	Control Flow (Accuracy ±15%)
Fazla Akış	***EF**	Excess Flow
Yük Algılama	***LS**	Load Sense

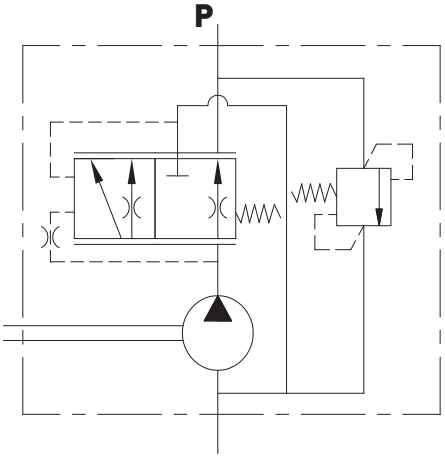
R1/R2/R3

Emniyet Valfi
Relief Valve



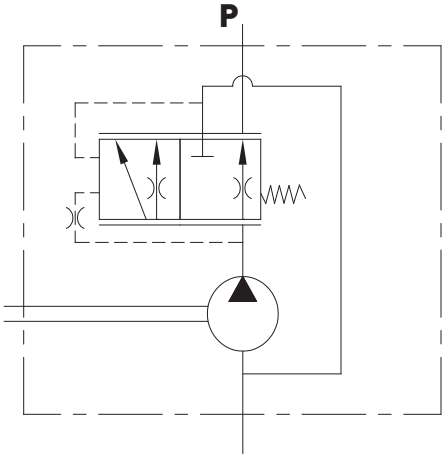
H (CR1/CR2/CR3)

Emniyet Valfi Akış Kontrol Valfi
Flow Control Valve With Relief Valve



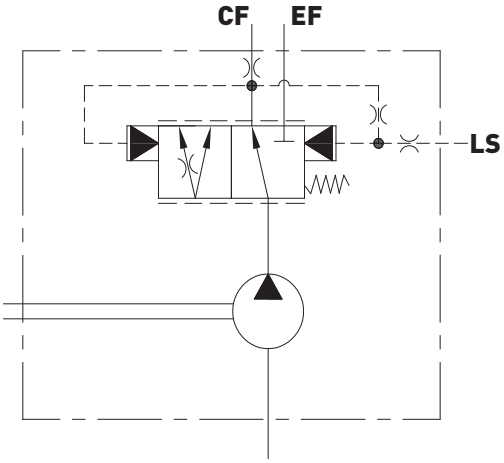
C

Basınç Kompansatörlü Akış Kontrol Valfi
Flow Control Valve Pressure Compensated



L

Yük Duyarlı Valf
Load Sensing Valve



15. POMPA HESAPLARI

Pompa dizayn hesaplarında aşağıdaki parametreler esas alınır.

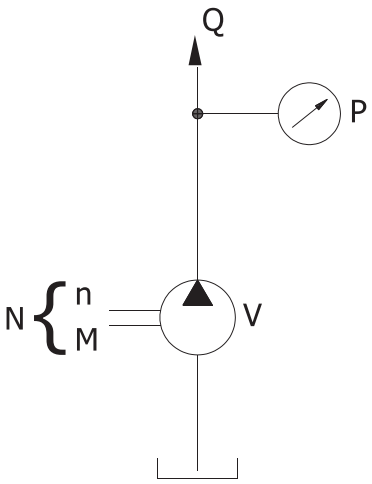
V (cm³/dev)	: İletim Hacmi
Q (lt/dak)	: Debi
P (bar)	: Basınç
M (Nm)	: Döndürme Torku
n (d/d)	: Hız
N (kW)	: Güç
ηv (%)	: Volumetrik Verim
ηm (%)	: Mekanik Verim
ηt (%)	: Toplam Verim

15. CALCULATION THE SPECIFICATION OF A GEAR PUMP

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

V (cm³/rev)	: Displacement
Q (l/min)	: Flow Range
P (bar)	: Pressure
M (Nm)	: Drive Torque
n (rpm)	: Speed
N (kW)	: Power
ηv (%)	: Volumetric Efficiency
ηm (%)	: Mechanical Efficiency
ηt (%)	: Total Efficiency

FORMÜLLER / FORMULAS



$$Q = \frac{V \,.\, n}{1000} . \eta v$$

$$N = \frac{Q \,.\, P}{600 . \eta t}$$

$$M = \frac{V \,.\, P}{62{,}83 \,.\, \eta m}$$

$$\eta t = \eta m \,.\, \eta v$$

Tavsiye Edilen Verim
Recommended Efficiency

$\eta v = \%95 \ (\approx 0{,}95)$
$\eta m = \%87 - \%90 \ (\approx 0{,}87 - \approx 0{,}90)$
$\eta t = \%82 \ (\approx 0{,}82)$

Ascend to Greater Value

Birlikte Daha Yükseğe

blueascend.com

AP30 . 220/220/220 . C A B 7 02 S 07 N - T

Pompa Tipi / Pump Type	
AP30	Aluminyum Gövdeli Düz Dişli Pompa Aluminium Body Gear Pump

İletim Hacmi / Displacement cm³/dev / (cm³/rev)	
170	17,0 cm³/dev (cm³/rev)
220	22,0 cm³/dev (cm³/rev)
270	27,0 cm³/dev (cm³/rev)
320	32,0 cm³/dev (cm³/rev)
340	34,0 cm³/dev (cm³/rev)
380	38,0 cm³/dev (cm³/rev)
430	43,0 cm³/dev (cm³/rev)
470	47,0 cm³/dev (cm³/rev)
510	51,0 cm³/dev (cm³/rev)
560	56,0 cm³/dev (cm³/rev)
610	61,0 cm³/dev (cm³/rev)
730	73,0 cm³/dev (cm³/rev)
820	82,0 cm³/dev (cm³/rev)
900	90,0 cm³/dev (cm³/rev)
1000	100,0 cm³/dev (cm³/rev)

Dönüş Yönü / Rotation	
A	Sol dönüş / Counter-clockwise
C	Sağ dönüş / Clockwise
R	Çift dönüş / Reversible

İç Spline Female Spline	
7	Var / Available
	Yok / Absent

Ön Kapak / Front Cover		
A	Dikdörtgen kapak (EUROPEAN) Square flange Ø50,78 mm	
B	2 Civatalı SAE “A” 2 Bolts SAE “A” Ø82,55 mm	
D	2 Civatalı SAEJ 744 101-2B (SAE “B” 2 BOLTS) 2 Bolts SAEJ 744 101-2B Ø101,6 mm	
G	Dikdörtgen kapak (GERMAN) Square flange Ø105 mm	
H	2 Civatalı SAE “A” 2 Bolts SAE “A” Ø82,55 mm	
K	2 Civatalı SAE “B” 2 Bolts SAE “B” Ø101,6 mm	
L	Dikdörtgen kapak (GERMAN) Square flange Ø60,3 mm	
M	Dikdörtgen kapak (GERMAN) Square flange Ø60 mm	
N	4 Civatalı SAE “C” 4 Bolts SAE “C” Ø127 mm	
N1	4 Civatalı SAE “C” 4 Bolts SAE “C” Ø90 mm	
S	3 Civatalı - UNI Tipi 3 Bolts - UNI Type Ø52 mm	

Ön Yatak Outboard Bearing	
07	Var / Available
	Yok / Absent

Keçe / Seal	
N	NBR
V	FKM

Eleman Sayısı Number of Elements	
	Tekli / Single
T	Tandem / Tandem
M	Modüler / Modular

Arka Kapak / Rear Cover	
S	Standart Standard
R1	Emniyet Valfi (10 - 105 Bar) Relief Valve
R2	Emniyet Valfi (70 - 210 Bar) Relief Valve
R3	Emniyet Valfi (140 - 350 Bar) Relief Valve
H	Emniyet Valfli Akış Kontrol Valf Flow Control Valve With Relief Valve
L	Yük Duyarlı Valf Load Sensing Valve
T	Çek Valf Check Valve
P	Arkadan Giriş-Çıkış Rear Inlet-Outlet
C	Basınç Kompansatörlü Akış Kontrol Valfi Flow Control Valve Pressure Compensated

Tahrik Şaftı / Drive Shaft			
A	Konik - Kamalı Tapered key shaft 1:5		A D G
B	Konik - Kamalı Tapered key shaft 1:8		A D G
C	SAE spline şaft 13 diş SAE spline shaft 13T		A D
D	SAE spline şaft 15 diş SAE spline shaft 15T		A D G
H	Paralel şaft Parallel shaft Ø22,22		A D G
K	Konik - Kamalı Tapered key shaft 1:8		L M
M	SAE spline şaft 13 diş SAE spline shaft 13T		K
P	Paralel şaft Parallel shaft Ø25		H
U	DIN 5463 spline şaft 6 diş DIN 5463 spline shaft 6T		S
U1	DIN 5463 spline şaft 6 diş DIN 5463 spline shaft 6T		N1

Giriş - Çıkış Delikleri Inlet and Outlet Ports		
01	Kare tip Rectangular	
02	Baklava tip Diamond	
03	SAE Dikdörtgen flanş metrik diş SAE Square flange metric thread	
04	UNF diş UNF thread	
05	Boru diş Pipe thread	
06	SAE Dikdörtgen flanş UNC diş SAE Square flange UNC thread	

-Kodlama Örneği (Tekli) -Code Example (Single)	AP30.220.CAB02SN

-Kodlama Örneği (Tandem) -Code Example (Tandem)	AP30.220/220/220.CAB702SN-T

-Kodlama Örneği (Modüler) -Code Example (Modular)	AP30.220/220/220.CAB702SN-M

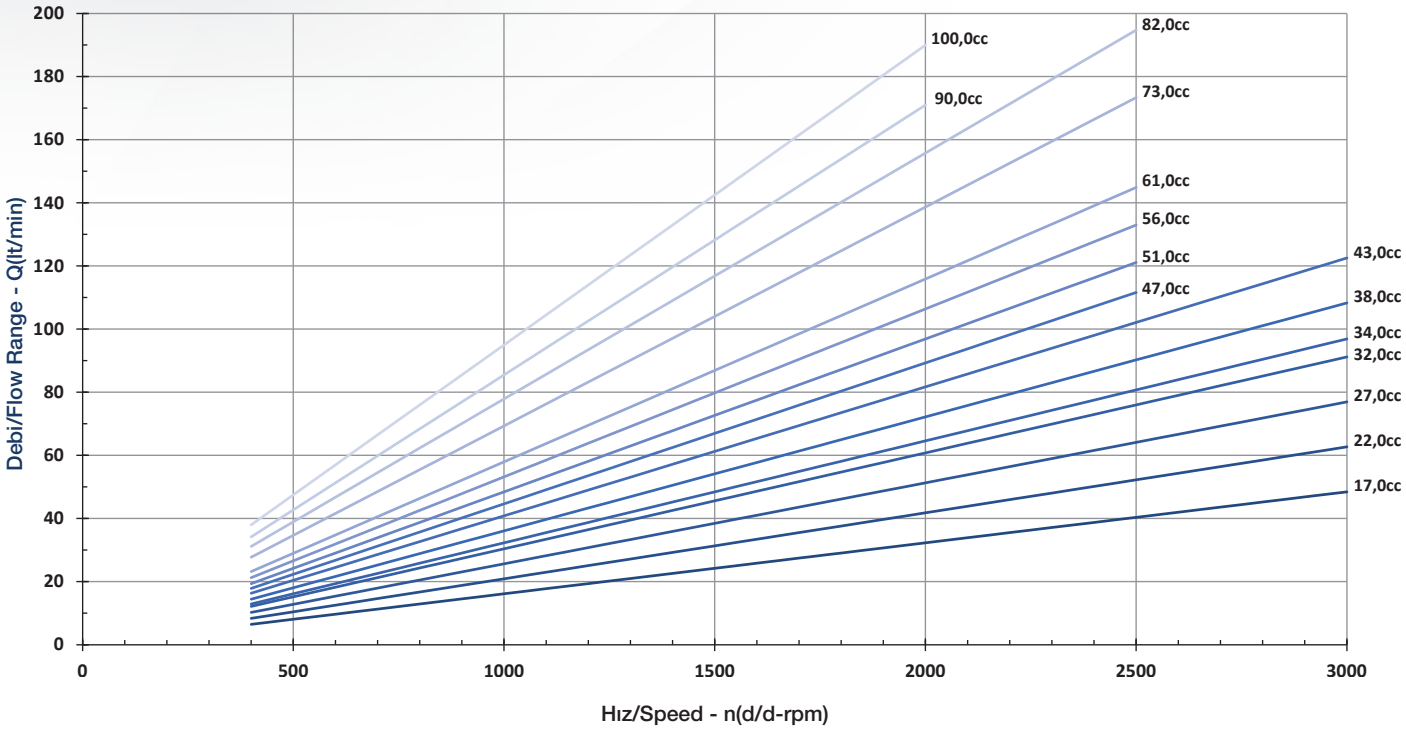
Pompa Tipi Pump Type	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç / Max. Pressure			Maks. Hız Max. Speed	Min. Hız Min. Speed
		P1	P2	P3		
		bar			d/d (rpm)	
AP30.170	17,0	250	270	290	3000	400
AP30.220	22,0	250	270	290	3000	400
AP30.270	27,0	250	270	290	3000	400
AP30.320	32,0	240	260	280	3000	400
AP30.340	34,0	240	260	280	3000	400
AP30.380	38,0	240	260	280	3000	400
AP30.430	43,0	230	250	270	3000	400
AP30.470	47,0	230	250	270	2500	400
AP30.510	51,0	210	230	250	2500	400
AP30.560	56,0	200	220	240	2500	400
AP30.610	61,0	180	200	220	2500	400
AP30.730	73,0	170	190	210	2500	400
AP30.820	82,0	160	180	200	2500	400
AP30.900	90,0	150	170	190	2000	400
AP30.1000	100,0	140	160	180	2000	400

P1	Sürekli Çalışma Basıncı Continuous Pressure

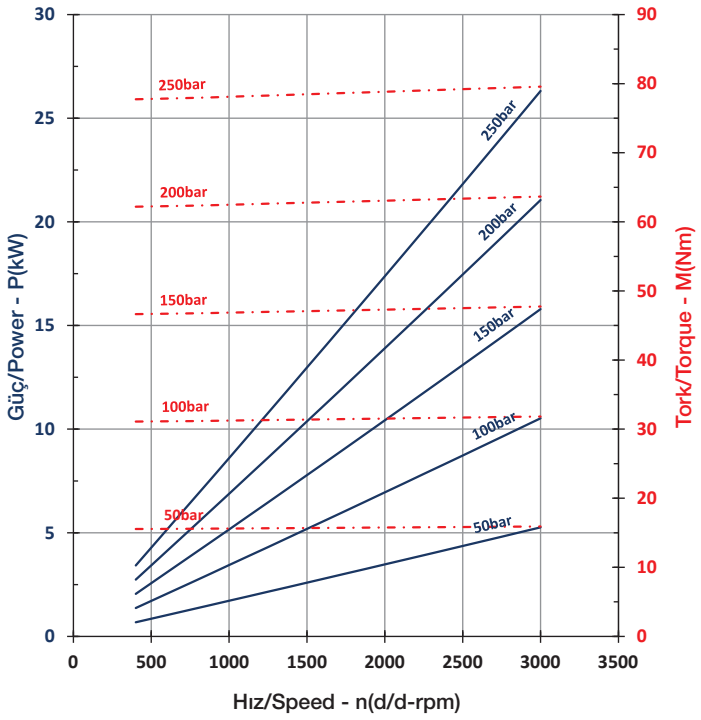
P2	Aralıklı Çalışma Basıncı Intermittent Pressure

P3	Ani Basınç Peak Pressure

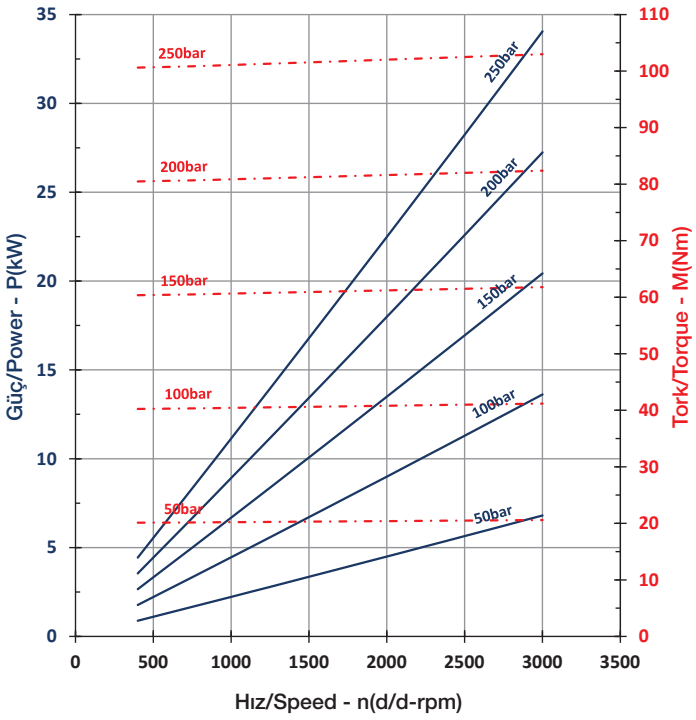
AP30 POMPALARIN DEBİ EĞRİLERİ / FLOW CURVES OF AP30 PUMPS



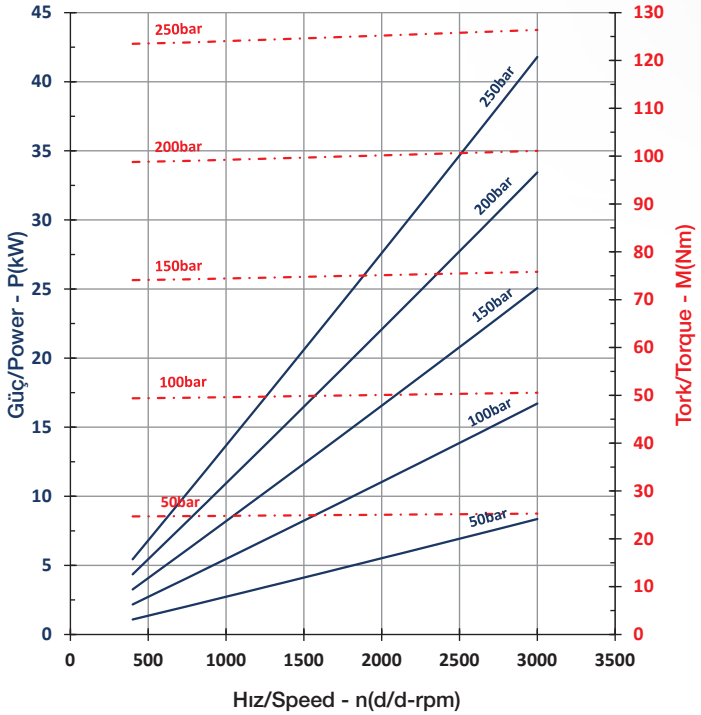
AP30.170



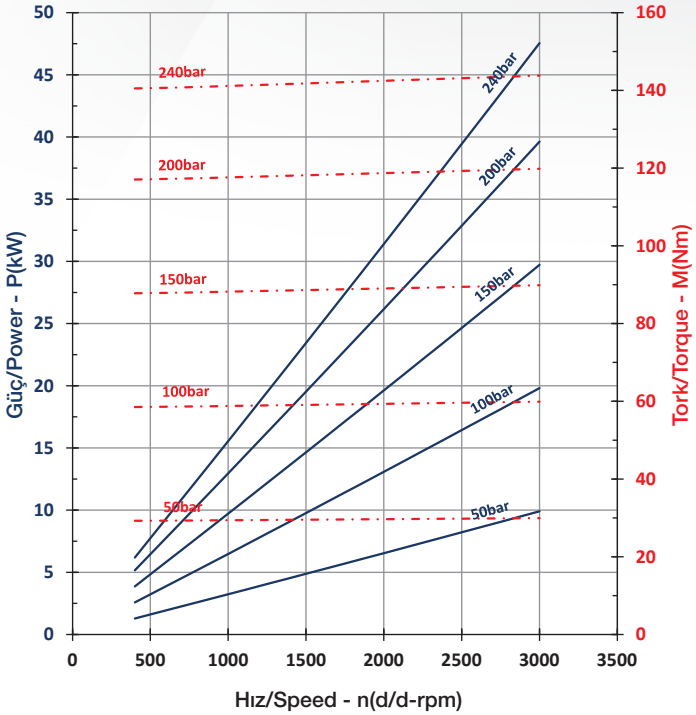
AP30.220



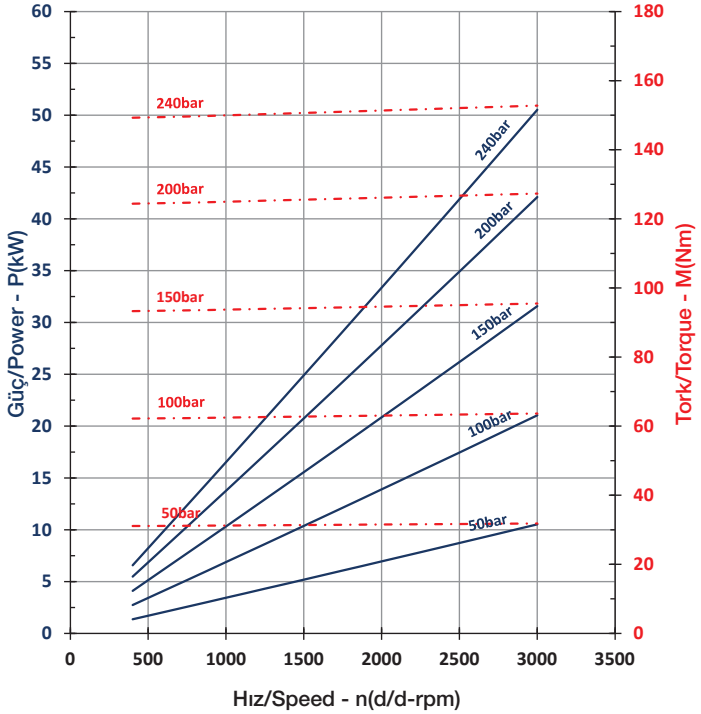
AP30.270



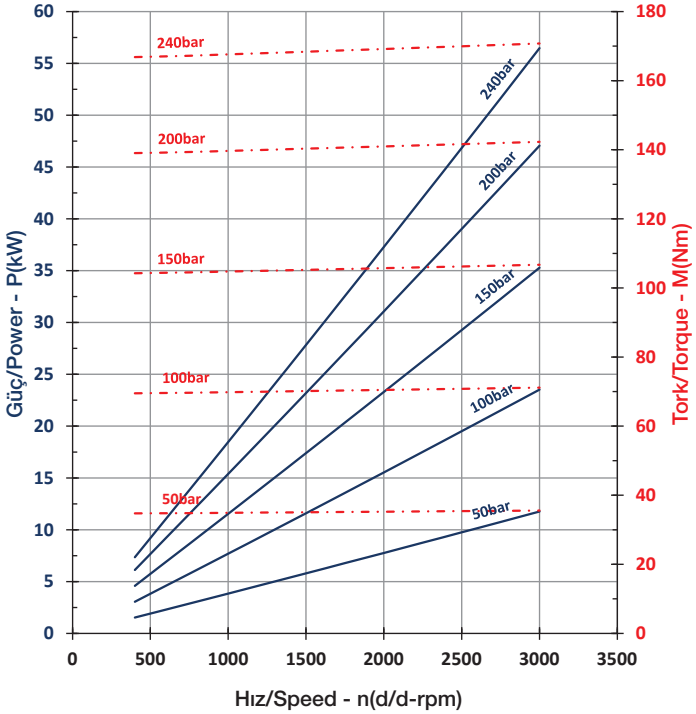
AP30.320



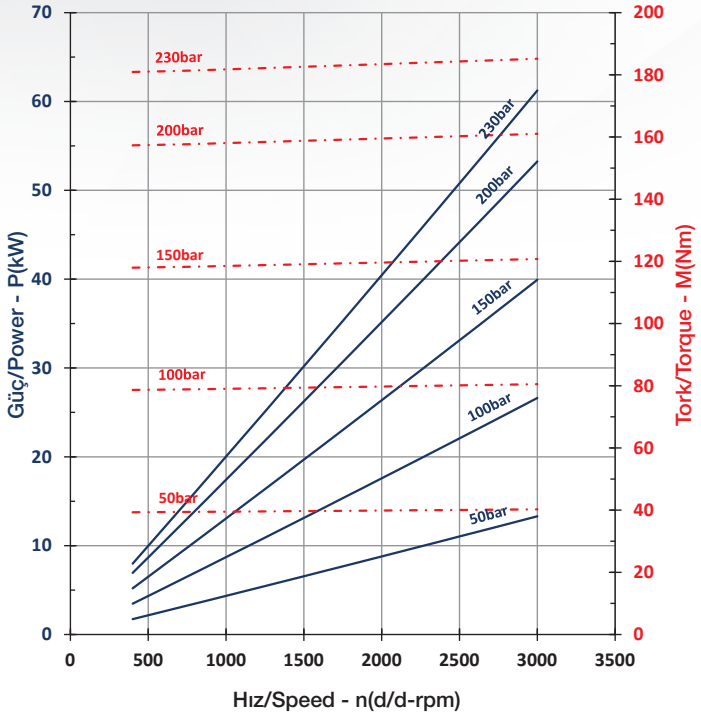
AP30.340



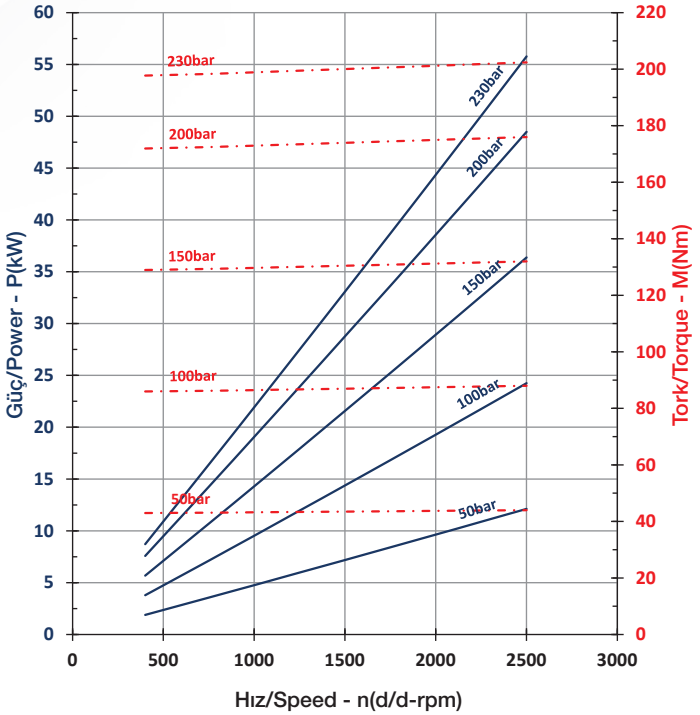
AP30.380



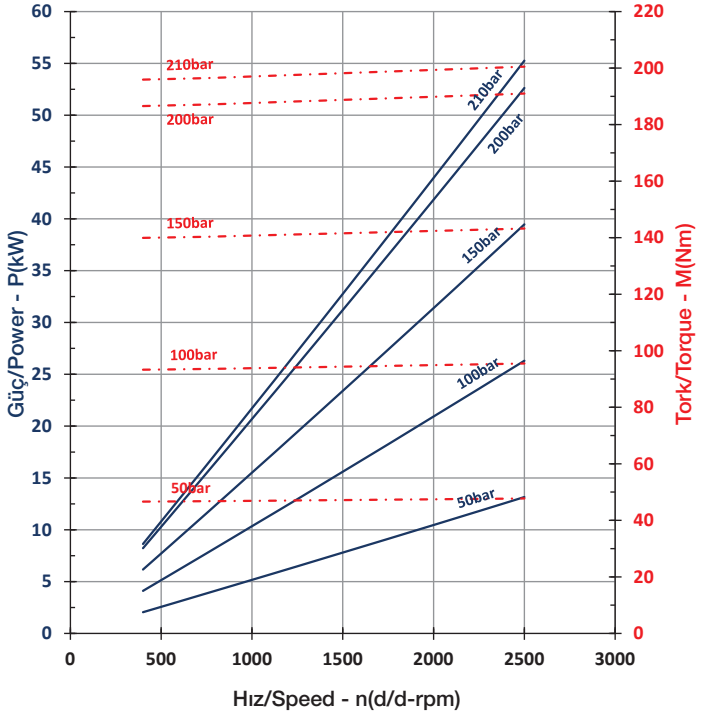
AP30.430



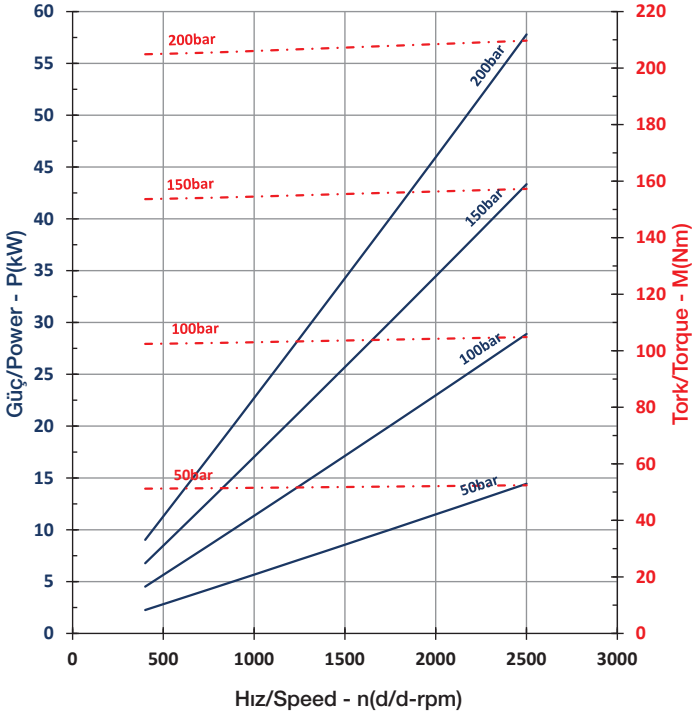
AP30.470



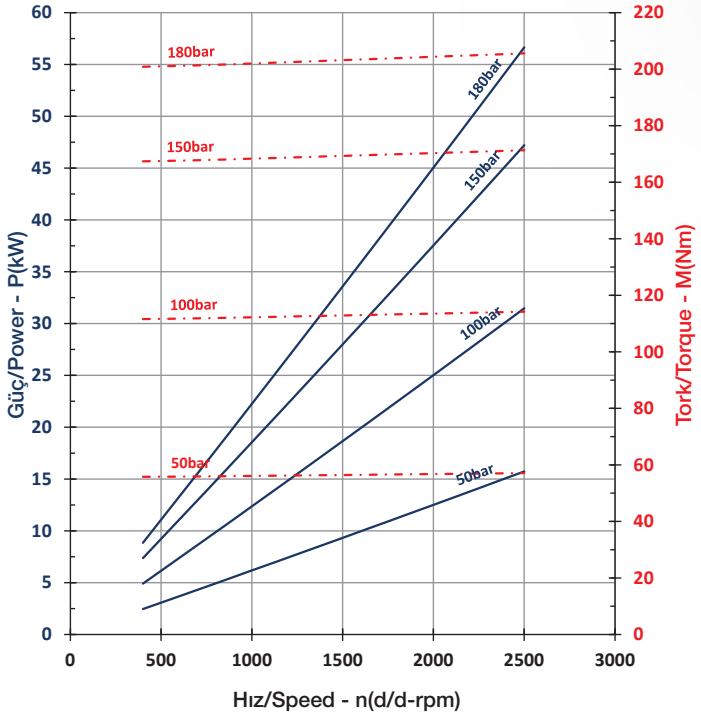
AP30.510



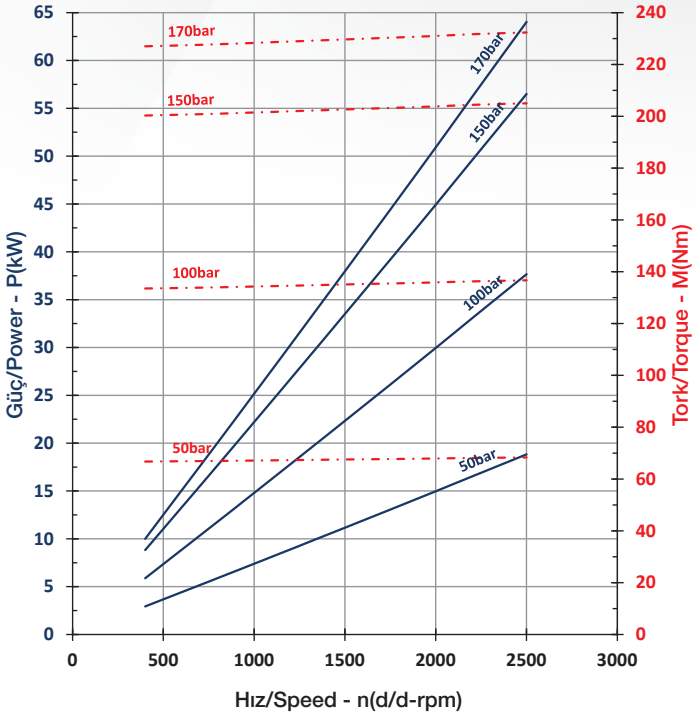
AP30.560



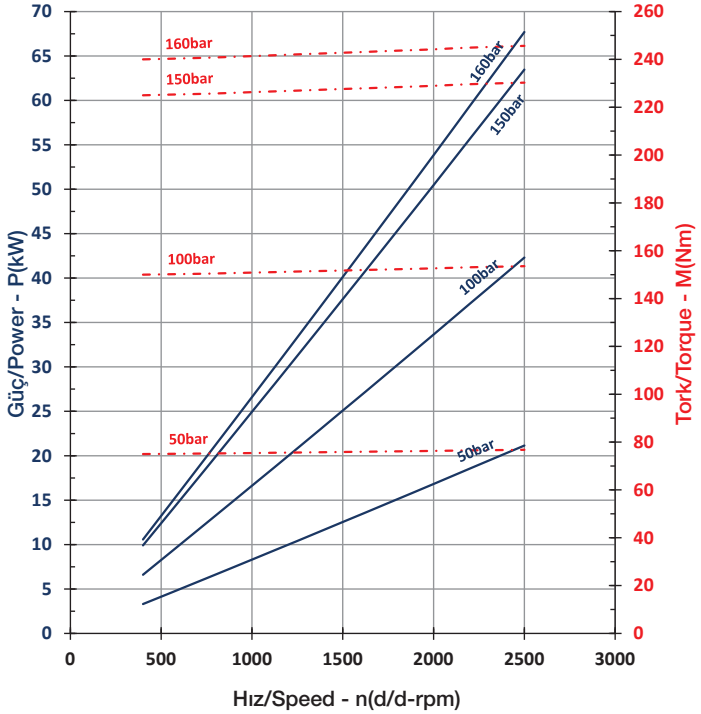
AP30.610



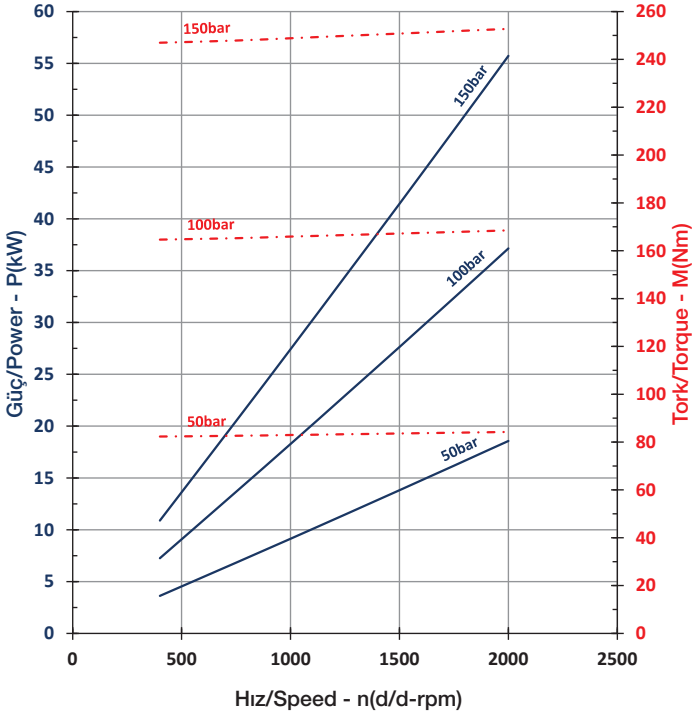
AP30.730



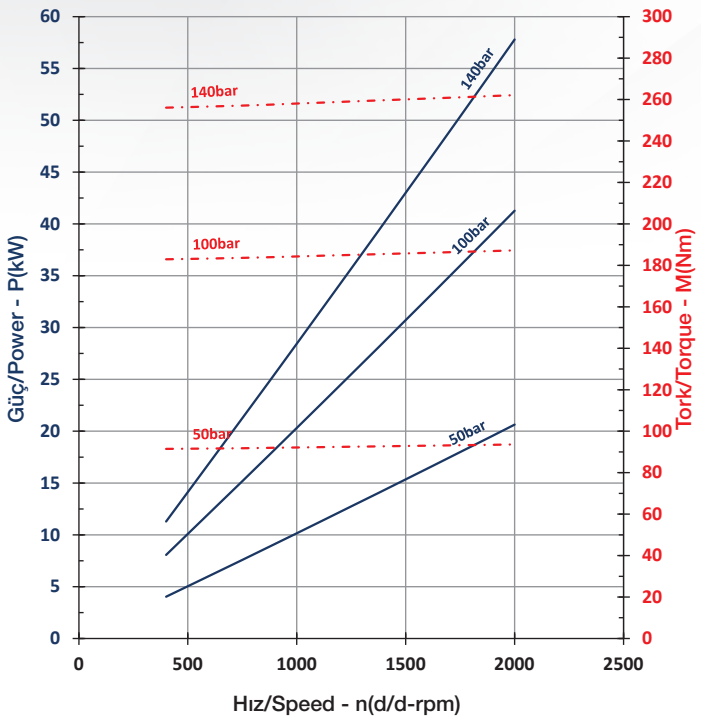
AP30.820



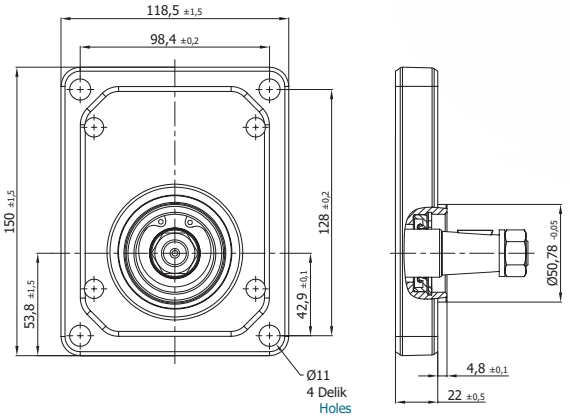
AP30.900



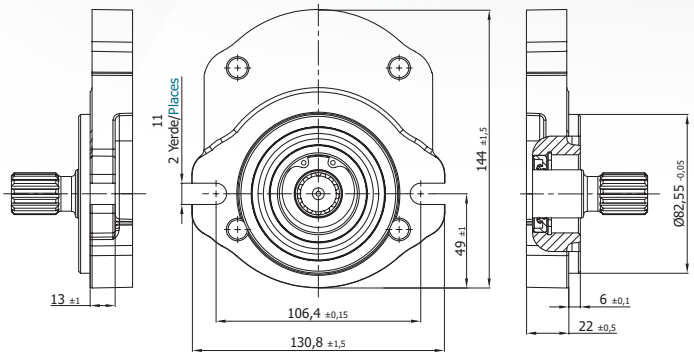
AP30.1000


Güç/Power - P(kW)
Tork/Torque - M(Nm)
Hız/Speed - n(d/d-rpm)
140bar
100bar
50bar
140bar
100bar
50bar
0
5
10
15
20
25
30
35
40
45
50
55
60
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
0
500
1000
1500
2000
2500

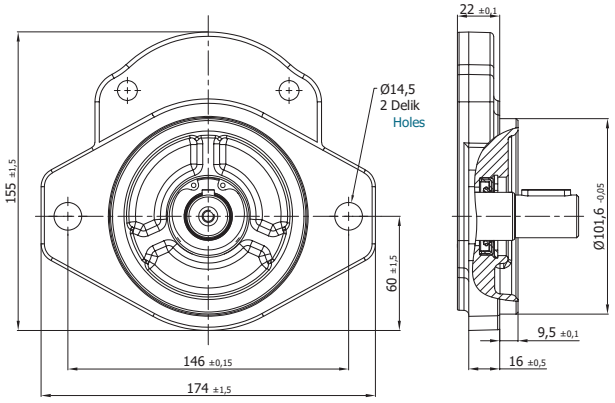
EUROPEAN A



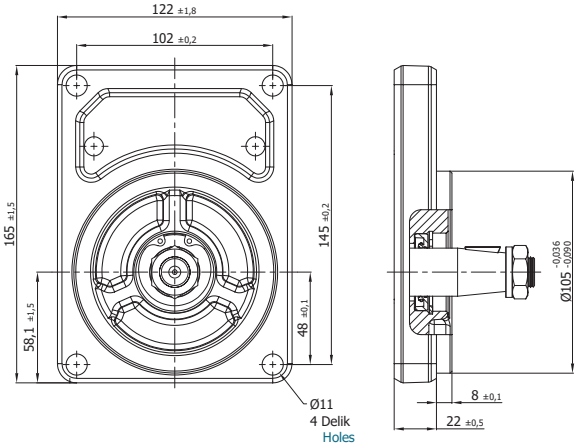
SAE "A" 2 BOLTS B



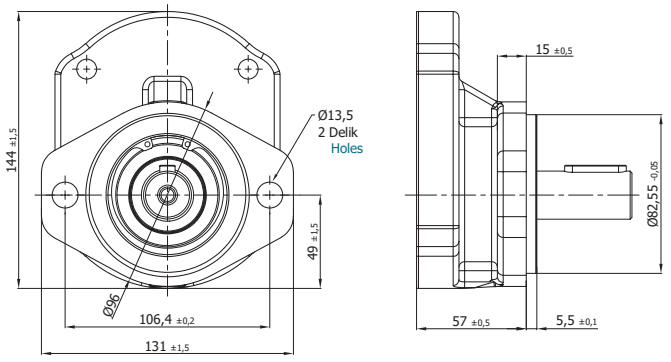
SAE ''B" 2 BOLTS D



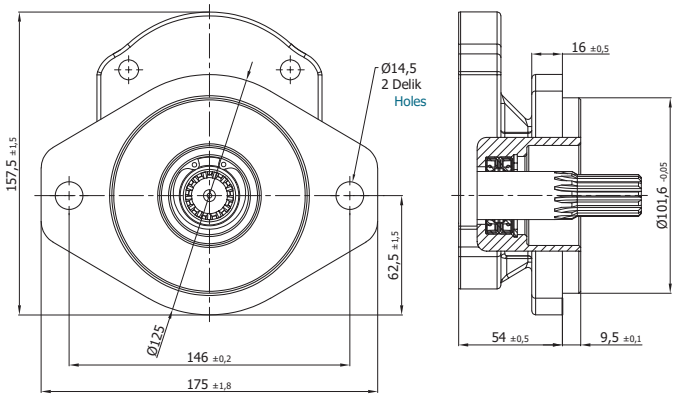
GERMAN G



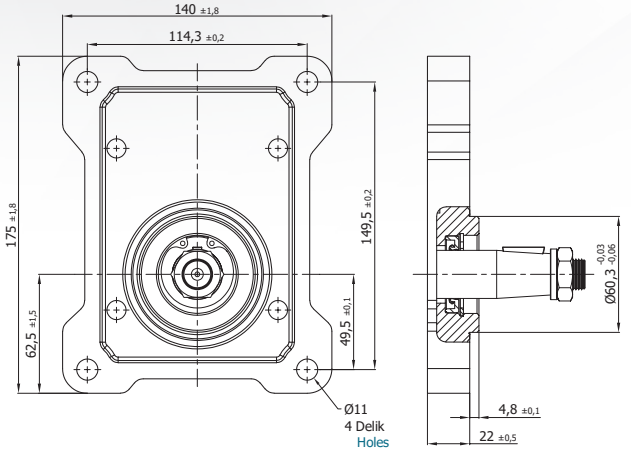
SAE ''A" 2 BOLTS H



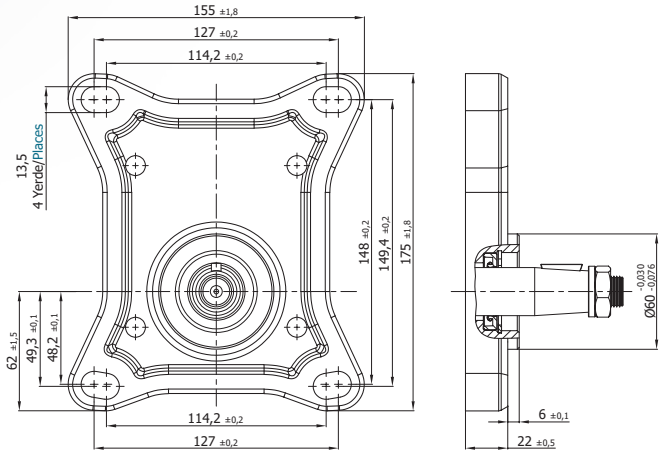
SAE 'B' 2 BOLTS K



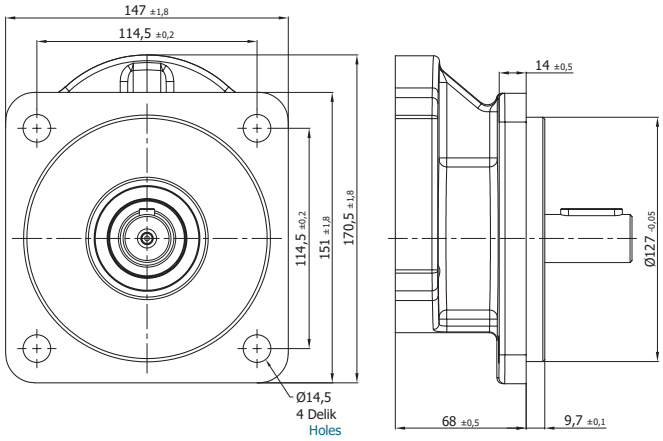
GERMAN L



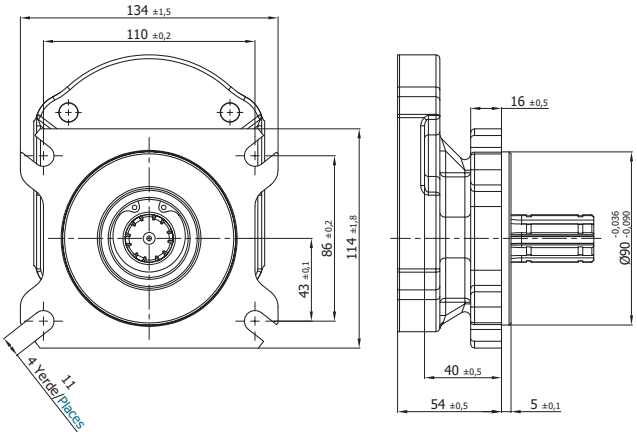
GERMAN M



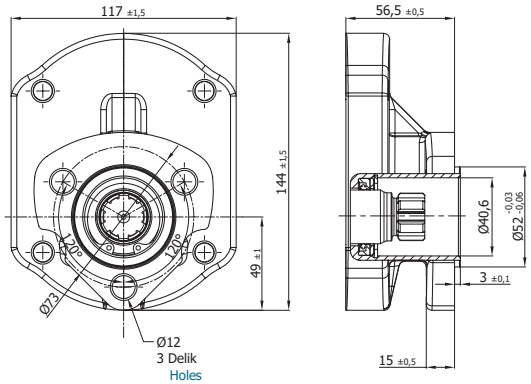
SAE ''C'' 4 BOLTS N



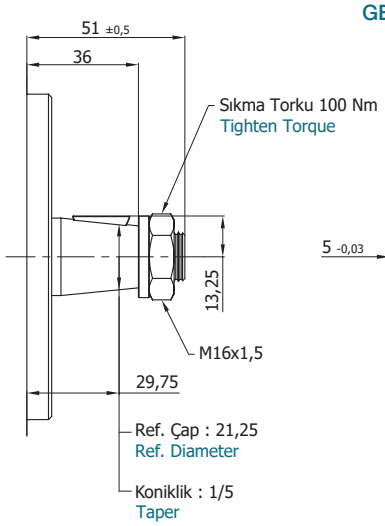
SAE ''C'' 4 BOLTS N1

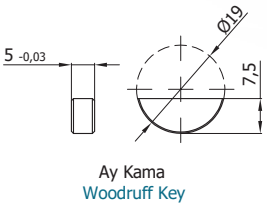


UNI TYPE S



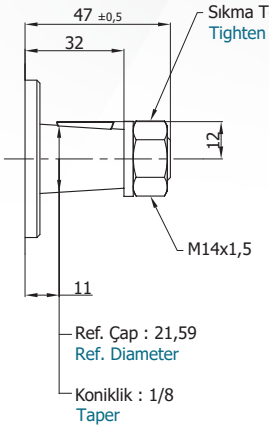
GERMAN TAPERED 1:5 A

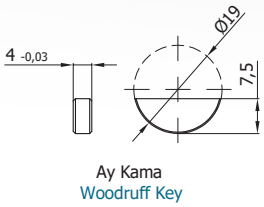




Maks. Tork 240 Nm
Max. Torque

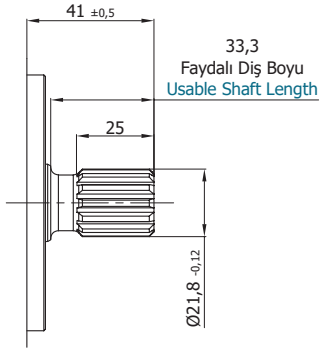
EUROPEAN TAPERED 1:8 B





Maks. Tork 240 Nm
Max. Torque

SAE SPLINE C

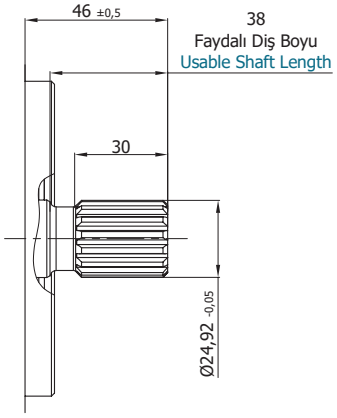


SAE J498 Spline
Evolvent Spline
Diş Dibi Düz, Yanaktan Alıştırmalı
13 Diş, 16/32 DP

Involute spline
Flat root side fit
13 Teeth, 16/32 DP

Maks. Tork 280 Nm
Max. Torque

SAE SPLINE D

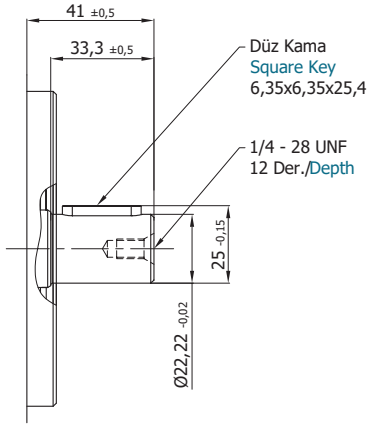


SAE J498 Spline
Evolvent Spline
Diş Dibi Düz, Yanaktan Alıştırmalı
15 Diş, 16/32 DP

Involute spline
Flat root side fit
15 Teeth, 16/32 DP

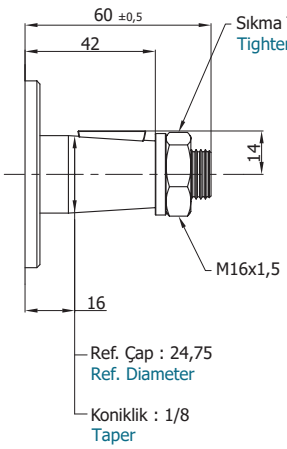
Maks. Tork 400 Nm
Max. Torque

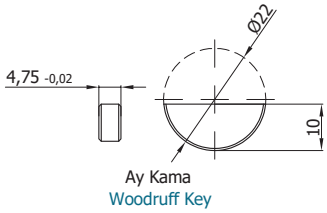
SAE ''B'' STRAIGHT H



Maks. Tork 200 Nm
Max. Torque

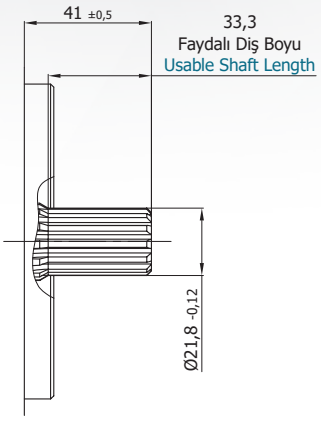
TAPERED 1:8 K





Maks. Tork 350 Nm
Max. Torque

SAE SPLINE M

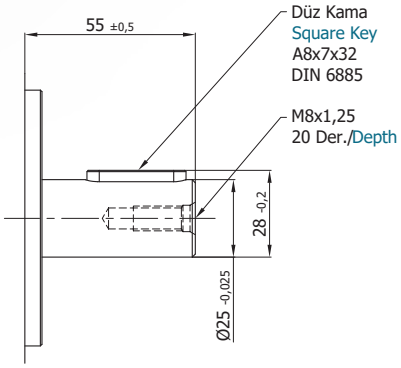


SAE J498 Spline
Evolvent Spline
Diş Dibi Düz, Yanaktan Alıştırmalı
13 Diş, 16/32 DP

Involute spline
Flat root side fit
13 Teeth, 16/32 DP

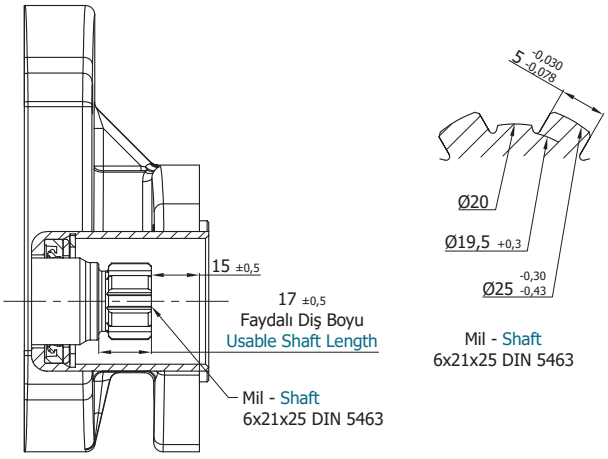
Maks. Tork 330 Nm
Max. Torque

STRAIGHT P



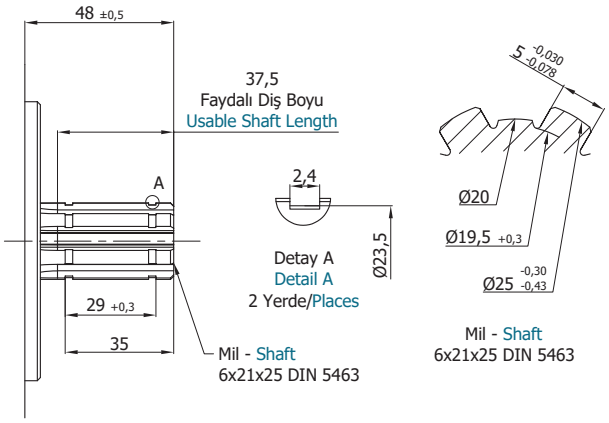
Maks. Tork 340 Nm
Max. Torque

DIN5463 SPLINE U

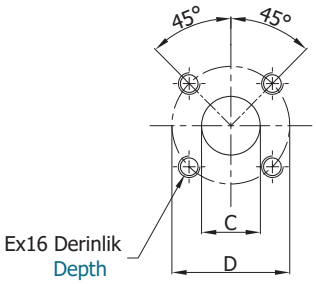


Maks. Tork 360 Nm
Max. Torque

DIN5463 SPLINE U1

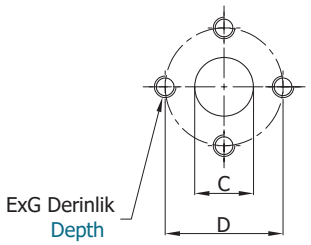


Maks. Tork 360 Nm
Max. Torque



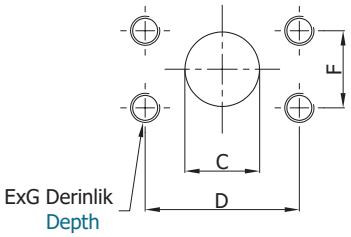
01 Kare Tipi Flanş / Rectangular Flange
German Flanged Ports - 4 Bolts

Sipariş Kodu Ordering Code	İletim Hacmi Displacement cm³/dev (rev)	Emiş Tarafı Suction Side			Basınç Tarafı Pressure Side		
		C	D	E	c	d	e
01	17 - 100	27	55	M8	19	55	M8



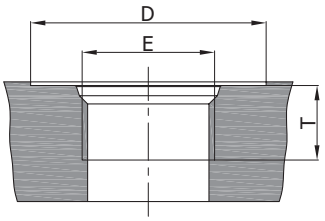
02 Baklava Tipi Flanş / Diamond Flange
European Flanged Ports - 4 Bolts

Sipariş Kodu Ordering Code	İletim Hacmi Displacement cm³/dev (rev)	Emiş Tarafı Suction Side			Basınç Tarafı Pressure Side		
		C	D	ExG	c	d	exg
02	17 - 61	27	51	M10x19	19	40	M8x16
	73 - 100	33	62	M12x19	27	51	M10x19



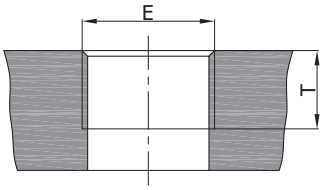
03 SAE Dikdörtgen Flanş Metrik Diş / SAE Flanged Ports J518 - Standard Pressure Series 3000 PSI
SAE Square Flange Metric Thread / Metric thread ISO 60° conforms to ISO / R 262

Sipariş Kodu Ordering Code	İletim Hacmi Displacement cm³/dev (rev)	Emiş Tarafı Suction Side				Basınç Tarafı Pressure Side			
		C	D	ExG	F	c	d	exg	f
03	17 - 22	19	47,6	M10x19	22,2	13	38,1	M8x16	17,5
	27 - 34	25,4	52,4		26,2	19	47,6	M10x19	22,2
	38 - 51	30,5	58,7		30,2	25,4	52,4		26,2
	56 - 82	39,3	69,8	M12x22	35,7	30,5	58,7		30,2
	90 - 100	51	77,8		42,9	39,3	69,8	M12x22	35,7



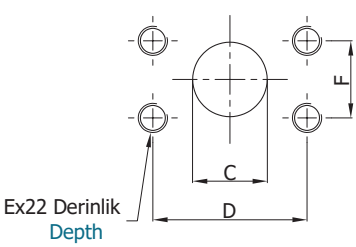
04 Diş / Thread
SAE Straight Thread O-Ring Port J1926-1

Sipariş Kodu Ordering Code	İletim Hacmi Displacement cm³/dev (rev)	Emiş Tarafı Suction Side			Basınç Tarafı Pressure Side		
		T	D	E	t	d	e
04	17 - 34	22	50	1 5/16''-12 UN-2B	22	45	1 1/16''-12 UN-2B
	38 - 51		60	1 5/8''-12 UN-2B		50	1 5/16''-12 UN-2B
	56 - 100		65	1 7/8''-12 UN-2B		60	1 5/8''-12 UN-2B



05 Boru Diş / Pipe Thread
Gas Straight Thread Ports British standard pipe parallel (55°) conforms to UNI-ISO 228

Sipariş Kodu Ordering Code	İletim Hacmi Displacement cm³/dev (rev)	Emiş Tarafı Suction Side		Basınç Tarafı Pressure Side	
		T	E	t	e
05	17 - 51	22	G 1	22	G 1
	56 - 73		G 1 1/4		
	82 - 100		G 1 1/2		G 1 1/4

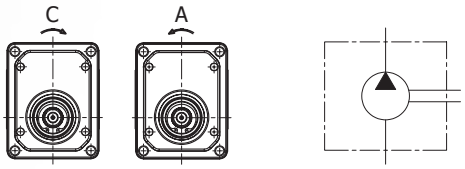


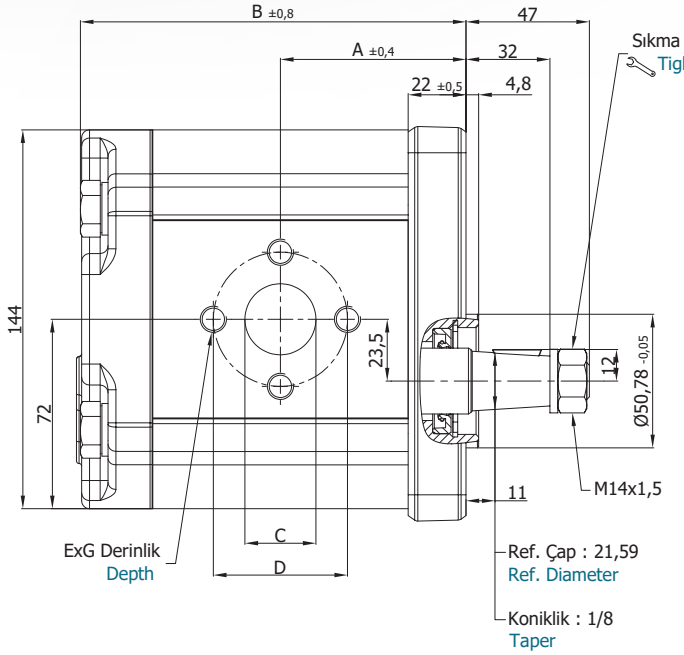
06 SAE Dikdörtgen Flanş UNC Diş / SAE Flanged Ports J518 - Standard Pressure Series 3000 PSI
SAE Square Flange UNC Thread / American straight thread UNC-UNF 60° conforms to ANSI B 1.1

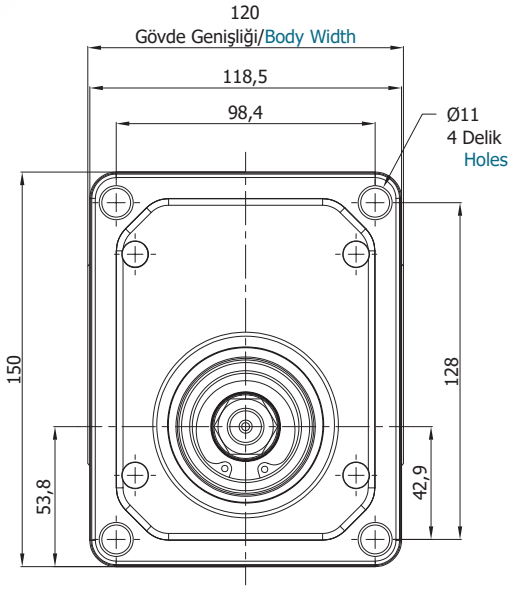
Sipariş Kodu Ordering Code	İletim Hacmi Displacement cm³/dev (rev)	Emiş Tarafı Suction Side				Basınç Tarafı Pressure Side			
		C	D	ExG	F	c	d	exg	f
06	17 - 22	19	47,6	3/8"-16 UNC-2B	22,2	12,5	38,1	5/16"-18 UNC-2B	17,5
	27 - 34	25,4	52,4		26,2	19	47,6	3/8"-16 UNC-2B	22,2
	38 - 51	30,5	58,7	7/16"-14 UNC-2B	30,2	25,4	52,4		26,2
	56 - 82	39,3	69,8	1/2"-13 UNC-2B	35,7	30,5	58,7	7/16"-14 UNC-2B	30,2
	90 - 100	51	77,8		42,9	39,3	69,8	1/2"-13 UNC-2B	35,7

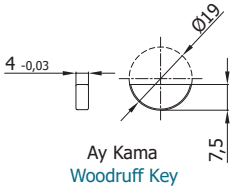
A *Ön Kapak* / *Front Cover*

B *Şaft Tipi* / *Shaft Type*





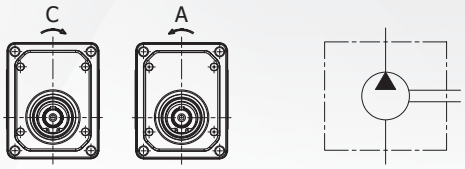


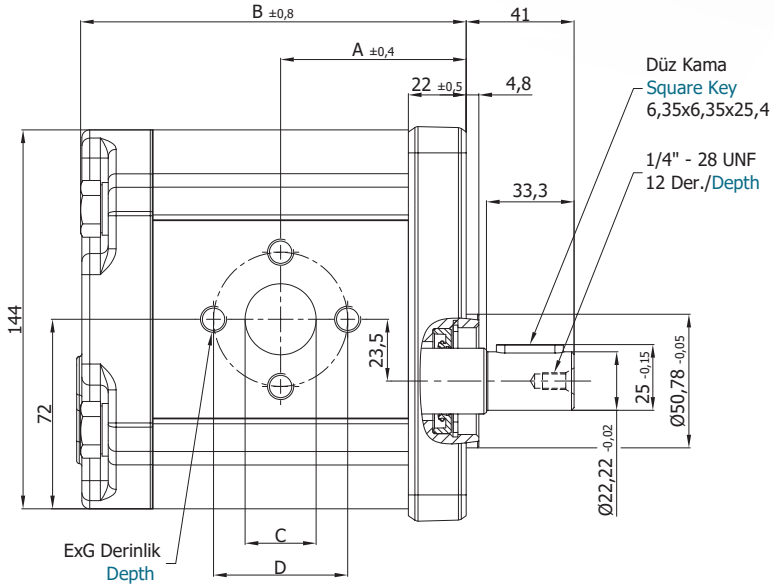


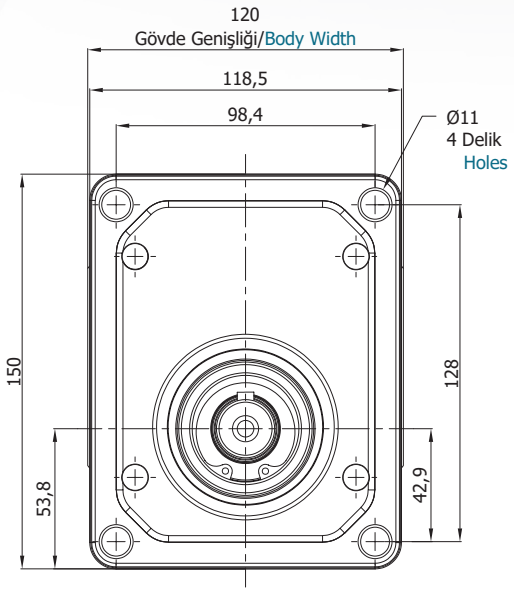
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	ExG	c	d	exg
AP30.170.A/CAB02SN	17,0	250	3000	59,5	124,1	27	51	M10x19	19	40	M8x16
AP30.220.A/CAB02SN	22,0			61,5	128,1						
AP30.270.A/CAB02SN	27,0			63,0	131,1						
AP30.320.A/CAB02SN	32,0	240		64,5	134,1						
AP30.340.A/CAB02SN	34,0			65,0	135,1						
AP30.380.A/CAB02SN	38,0			66,5	138,1						
AP30.430.A/CAB02SN	43,0	230		68,0	141,1						
AP30.470.A/CAB02SN	47,0		2500	69,5	144,1						
AP30.510.A/CAB02SN	51,0	210		70,5	146,1						
AP30.560.A/CAB02SN	56,0	200		71,5	148,1						
AP30.610.A/CAB02SN	61,0	180		74,0	153,1						
AP30.730.A/CAB02SN	73,0	170		77,0	160,1	33	62	M12x19	27	51	M10x19
AP30.820.A/CAB02SN	82,0	160		80,0	166,1						
AP30.900.A/CAB02SN	90,0	150	2000	83,0	172,1						
AP30.1000.A/CAB02SN	100,0	140		86,0	178,1						

A *Ön Kapak* / *Front Cover*

H *Şaft Tipi* / *Shaft Type*



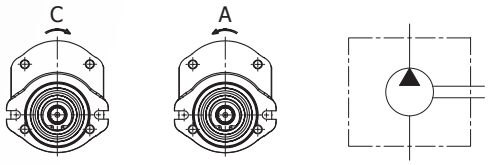


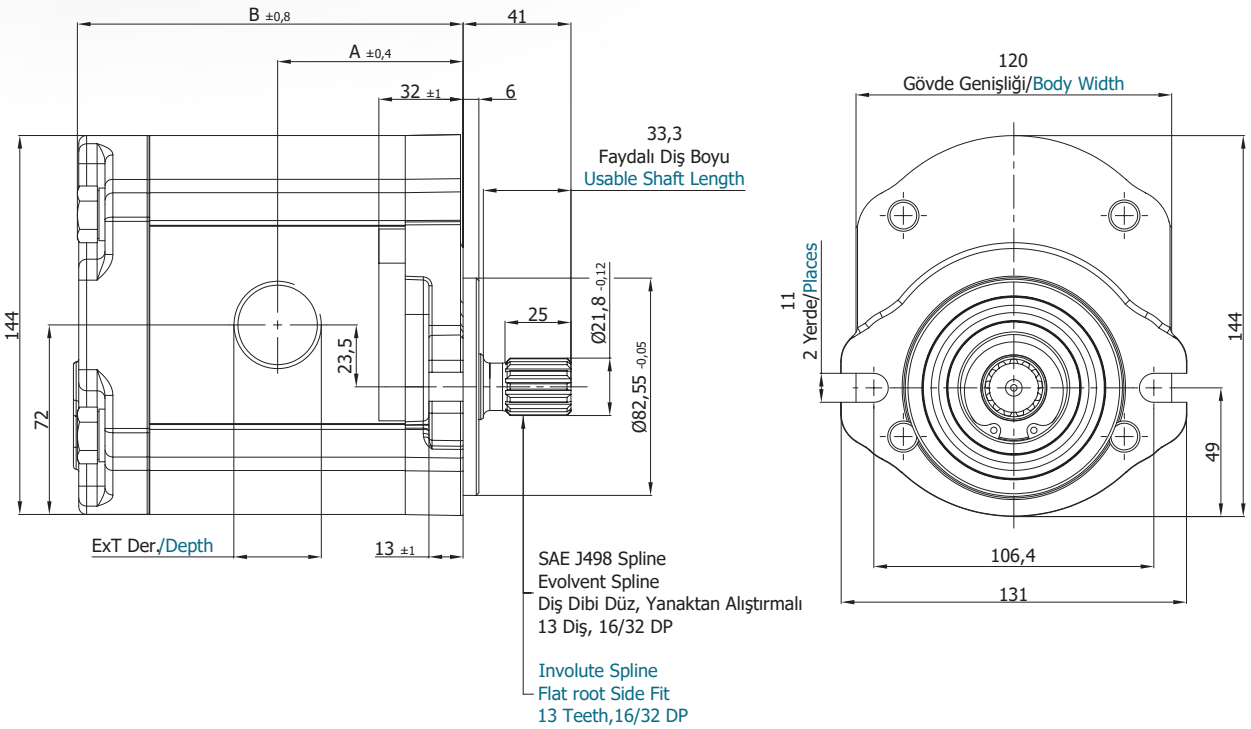


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	ExG	c	d	exg
AP30.170.A/CAH02SN	17,0	250	3000	59,5	124,1	27	51	M10x19	19	40	M8x16
AP30.220.A/CAH02SN	22,0			61,5	128,1						
AP30.270.A/CAH02SN	27,0			63,0	131,1						
AP30.320.A/CAH02SN	32,0	240		64,5	134,1						
AP30.340.A/CAH02SN	34,0			65,0	135,1						
AP30.380.A/CAH02SN	38,0			66,5	138,1						
AP30.430.A/CAH02SN	43,0	230		68,0	141,1						
AP30.470.A/CAH02SN	47,0		2500	69,5	144,1						
AP30.510.A/CAH02SN	51,0	210		70,5	146,1						
AP30.560.A/CAH02SN	56,0	200		71,5	148,1						
AP30.610.A/CAH02SN	61,0	180		74,0	153,1						
AP30.730.A/CAH02SN	73,0	170		77,0	160,1	33	62	M12x19	27	51	M10x19
AP30.820.A/CAH02SN	82,0	160		80,0	166,1						
AP30.900.A/CAH02SN	90,0	150	2000	83,0	172,1						
AP30.1000.A/CAH02SN	100,0	140		86,0	178,1						

B *Ön Kapak* / *Front Cover*

C *Şaft Tipi* / *Shaft Type*

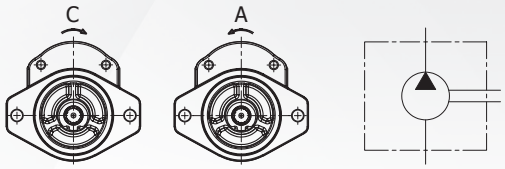


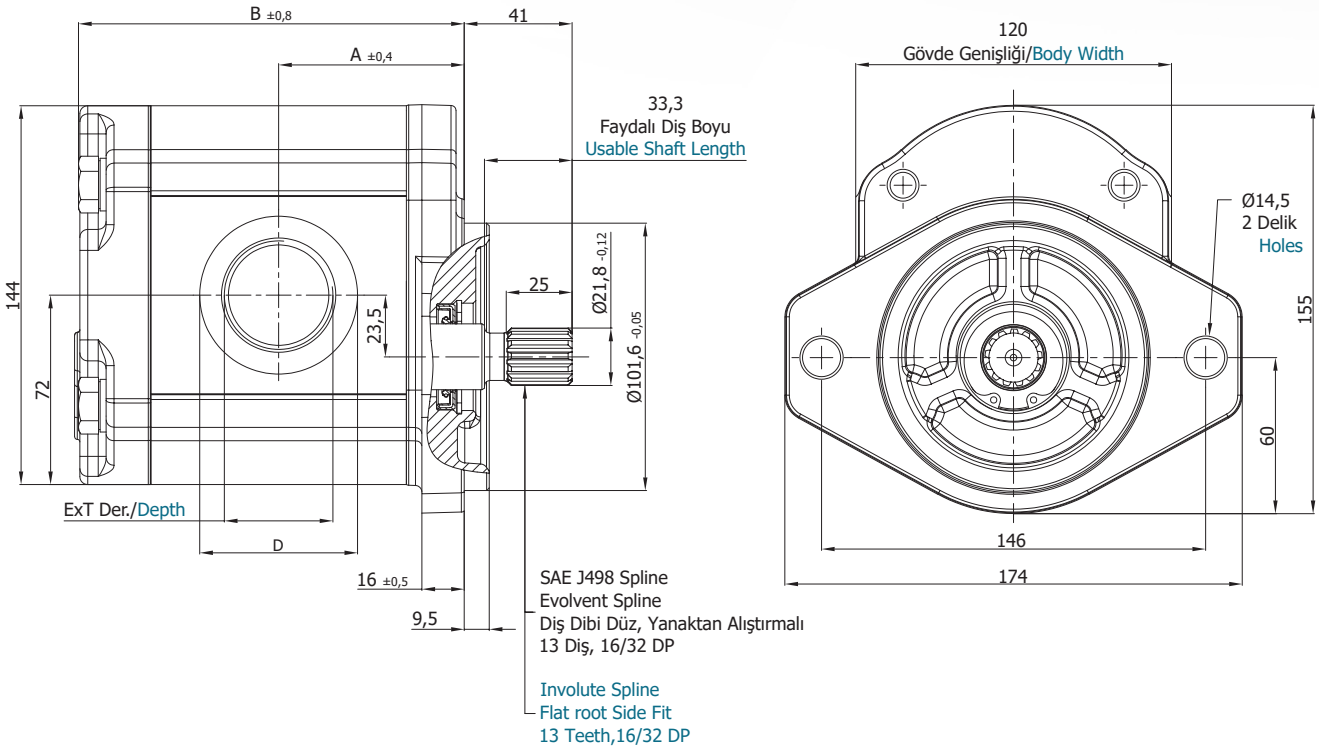


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet		Çıkış - Outlet	
						E	T	e	t
AP30.170.A/CBC05SN	17,0	250	3000	59,5	124,1	G 1	22	G 1	22
AP30.220.A/CBC05SN	22,0			61,5	128,1				
AP30.270.A/CBC05SN	27,0			63,0	131,1				
AP30.320.A/CBC05SN	32,0	240		64,5	134,1				
AP30.340.A/CBC05SN	34,0			65,0	135,1				
AP30.380.A/CBC05SN	38,0			66,5	138,1				
AP30.430.A/CBC05SN	43,0	230		68,0	141,1				
AP30.470.A/CBC05SN	47,0		2500	69,5	144,1				
AP30.510.A/CBC05SN	51,0	210		70,5	146,1				
AP30.560.A/CBC05SN	56,0	200		71,5	148,1	G 1 1/4			
AP30.610.A/CBC05SN	61,0	180		74,0	153,1				
AP30.730.A/CBC05SN	73,0	170		77,0	160,1				
AP30.820.A/CBC05SN	82,0	160		80,0	166,1	G 1 1/2		G 1 1/4	
AP30.900.A/CBC05SN	90,0	150	2000	83,0	172,1				
AP30.1000.A/CBC05SN	100,0	140		86,0	178,1				

D *Ön Kapak* / *Front Cover*

C *Şaft Tipi* / *Shaft Type*

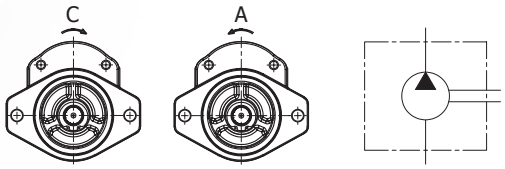


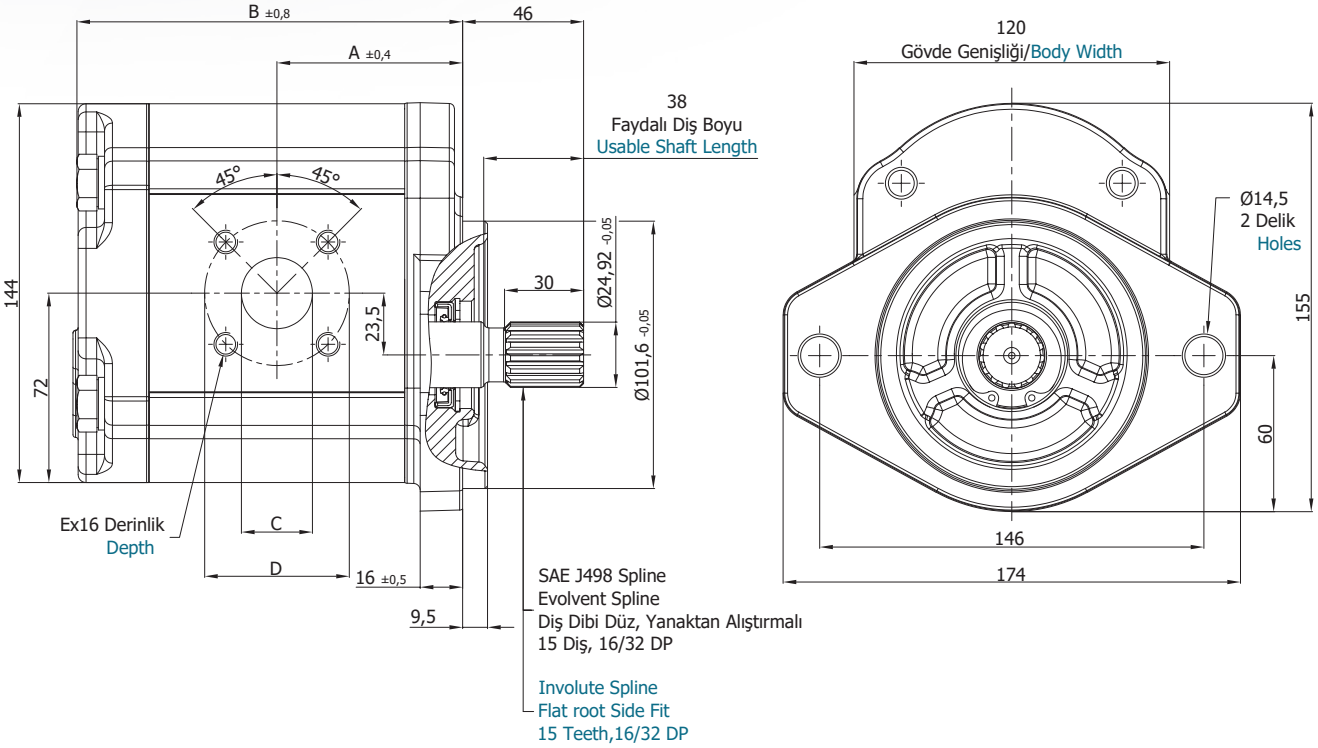


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						E	T	D	e	t	d
AP30.170.A/CDC04SN	17,0	250	3000	59,5	124,1	1 5/16"-12 UN-2B	22	50	1 1/16"-12 UN-2B	22	45
AP30.220.A/CDC04SN	22,0			61,5	128,1						
AP30.270.A/CDC04SN	27,0			63,0	131,1						
AP30.320.A/CDC04SN	32,0	240		64,5	134,1						
AP30.340.A/CDC04SN	34,0			65,0	135,1						
AP30.380.A/CDC04SN	38,0			66,5	138,1	1 5/8"-12 UN-2B		60	1 5/16"-12 UN-2B		50
AP30.430.A/CDC04SN	43,0	230		68,0	141,1						
AP30.470.A/CDC04SN	47,0		2500	69,5	144,1						
AP30.510.A/CDC04SN	51,0	210		70,5	146,1						
AP30.560.A/CDC04SN	56,0	200		71,5	148,1	1 7/8"-12 UN-2B		65	1 5/8"-12 UN-2B		60
AP30.610.A/CDC04SN	61,0	180		74,0	153,1						
AP30.730.A/CDC04SN	73,0	170		77,0	160,1						
AP30.820.A/CDC04SN	82,0	160		80,0	166,1						
AP30.900.A/CDC04SN	90,0	150	2000	83,0	172,1						
AP30.1000.A/CDC04SN	100,0	140		86,0	178,1						

D *Ön Kapak* *Front Cover*

D *Şaft Tipi* *Shaft Type*

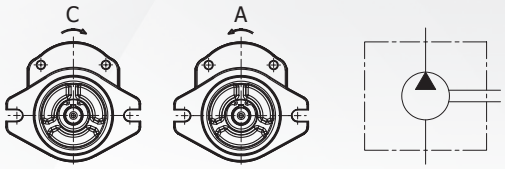


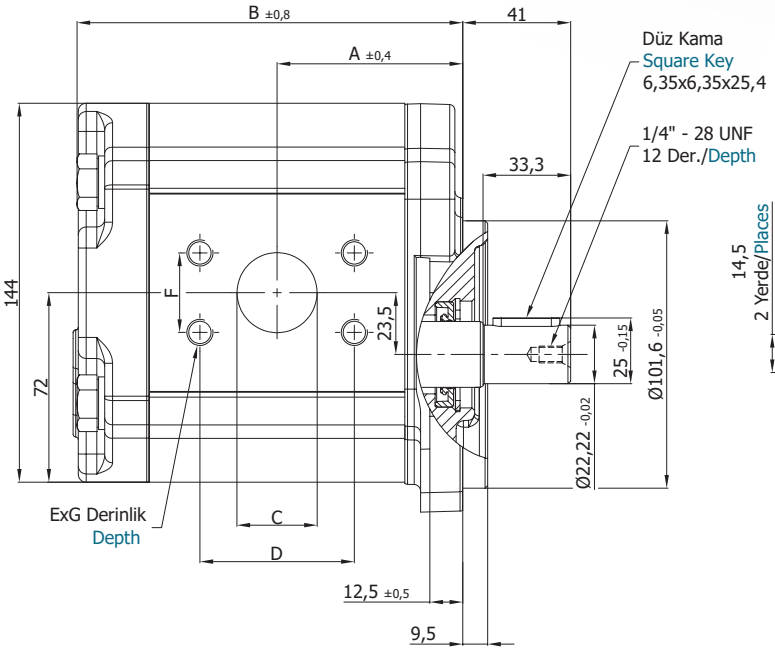


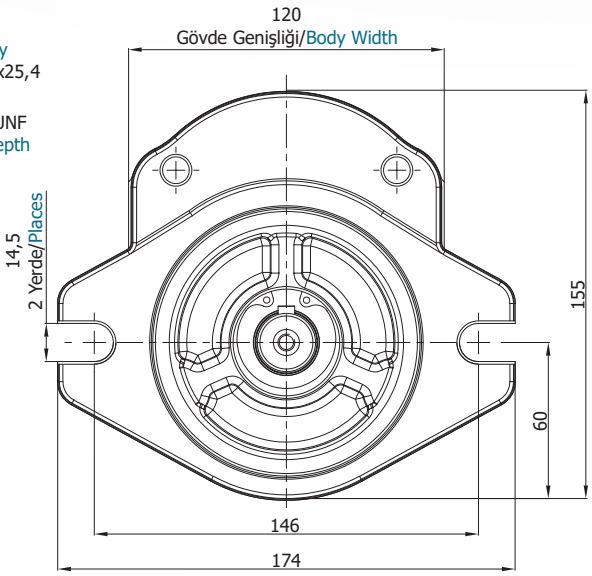
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP30.170.A/CDD01SN	17,0	250	3000	59,5	124,1	27	55	M8	19	55	M8
AP30.220.A/CDD01SN	22,0			61,5	128,1						
AP30.270.A/CDD01SN	27,0			63,0	131,1						
AP30.320.A/CDD01SN	32,0	240		64,5	134,1						
AP30.340.A/CDD01SN	34,0			65,0	135,1						
AP30.380.A/CDD01SN	38,0			66,5	138,1						
AP30.430.A/CDD01SN	43,0	230		68,0	141,1						
AP30.470.A/CDD01SN	47,0		2500	69,5	144,1						
AP30.510.A/CDD01SN	51,0	210		70,5	146,1						
AP30.560.A/CDD01SN	56,0	200		71,5	148,1						
AP30.610.A/CDD01SN	61,0	180		74,0	153,1						
AP30.730.A/CDD01SN	73,0	170		77,0	160,1						
AP30.820.A/CDD01SN	82,0	160		80,0	166,1						
AP30.900.A/CDD01SN	90,0	150	2000	83,0	172,1						
AP30.1000.A/CDD01SN	100,0	140		86,0	178,1						

D *Ön Kapak* / *Front Cover*

H *Şaft Tipi* / *Shaft Type*



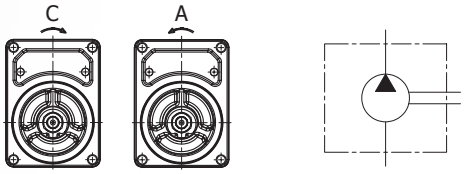


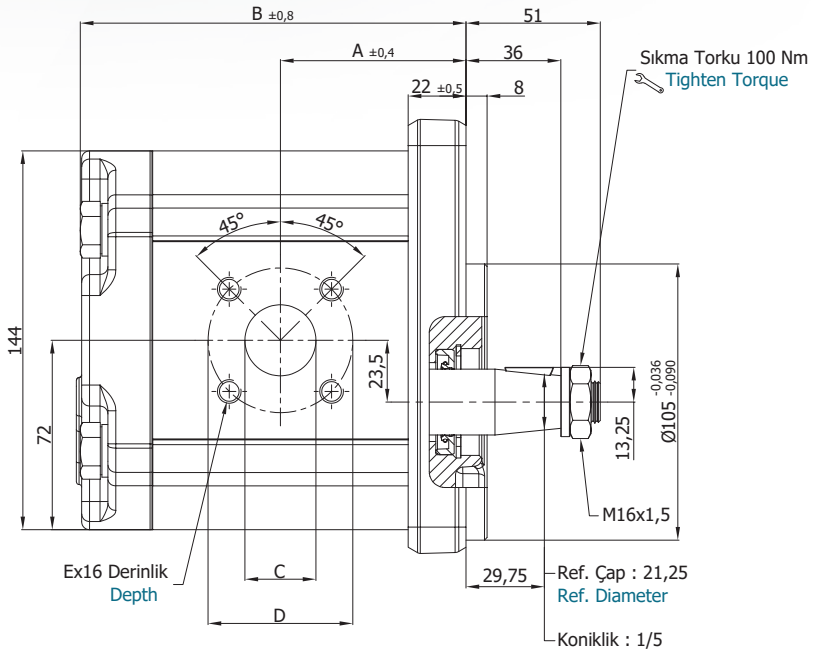


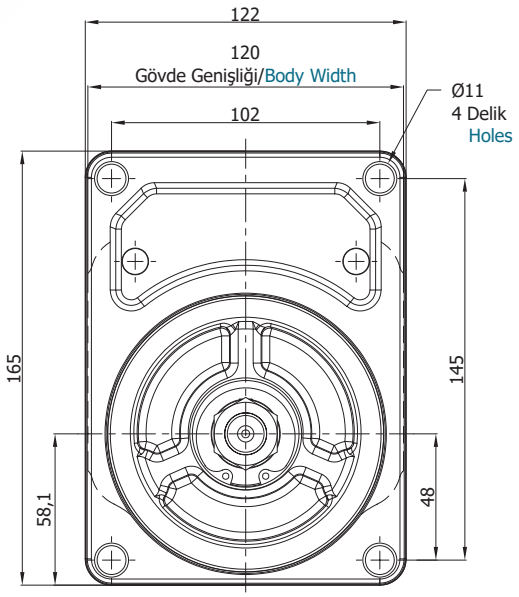
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet				Çıkış - Outlet			
						C	D	ExG	F	c	d	exg	f
AP30.170.A/CDH03SN	17,0	250	3000	59,5	124,1	19	47,6	M10x19	22,2	13	38,1	M8x16	17,5
AP30.220.A/CDH03SN	22,0			61,5	128,1								
AP30.270.A/CDH03SN	27,0			63,0	131,1	25,4	52,4		26,2	19	47,6	M10x19	22,2
AP30.320.A/CDH03SN	32,0	240		64,5	134,1								
AP30.340.A/CDH03SN	34,0			65,0	135,1								
AP30.380.A/CDH03SN	38,0			66,5	138,1	30,5	58,7		30,2	25,4	52,4		26,2
AP30.430.A/CDH03SN	43,0	230		68,0	141,1								
AP30.470.A/CDH03SN	47,0		2500	69,5	144,1								
AP30.510.A/CDH03SN	51,0	210		70,5	146,1								
AP30.560.A/CDH03SN	56,0	200		71,5	148,1	39,3	69,8	M12x22	35,7	30,5	58,7		30,2
AP30.610.A/CDH03SN	61,0	180		74,0	153,1								
AP30.730.A/CDH03SN	73,0	170		77,0	160,1								
AP30.820.A/CDH03SN	82,0	160		80,0	166,1								
AP30.900.A/CDH03SN	90,0	150	2000	83,0	172,1	51	77,8		42,9	39,3	69,8	M12x22	35,7
AP30.1000.A/CDH03SN	100,0	140		86,0	178,1								

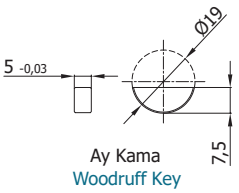
G *Ön Kapak* / *Front Cover*

A *Şaft Tipi* / *Shaft Type*





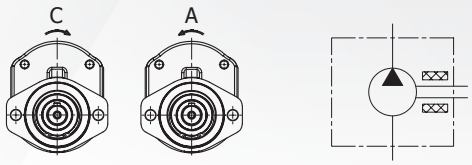


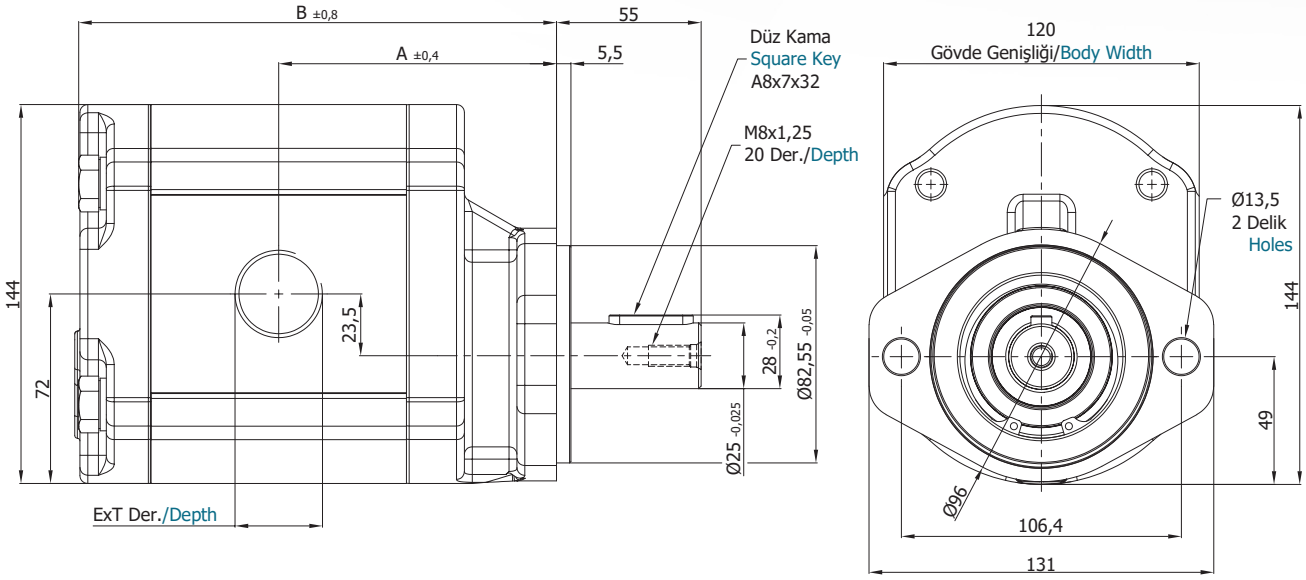


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP30.170.A/CGA01SN	17,0	250	3000	59,5	124,1	27	55	M8	19	55	M8
AP30.220.A/CGA01SN	22,0			61,5	128,1						
AP30.270.A/CGA01SN	27,0			63,0	131,1						
AP30.320.A/CGA01SN	32,0	240		64,5	134,1						
AP30.340.A/CGA01SN	34,0			65,0	135,1						
AP30.380.A/CGA01SN	38,0			66,5	138,1						
AP30.430.A/CGA01SN	43,0	230		68,0	141,1						
AP30.470.A/CGA01SN	47,0		2500	69,5	144,1						
AP30.510.A/CGA01SN	51,0	210		70,5	146,1						
AP30.560.A/CGA01SN	56,0	200		71,5	148,1						
AP30.610.A/CGA01SN	61,0	180		74,0	153,1						
AP30.730.A/CGA01SN	73,0	170		77,0	160,1						
AP30.820.A/CGA01SN	82,0	160		80,0	166,1						
AP30.900.A/CGA01SN	90,0	150	2000	83,0	172,1						
AP30.1000.A/CGA01SN	100,0	140		86,0	178,1						

H *Ön Kapak* *Front Cover*

P *Şaft Tipi* *Shaft Type*

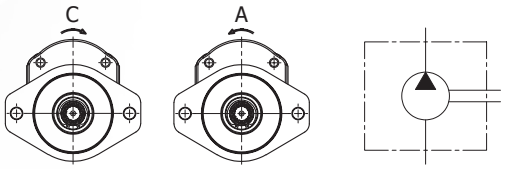


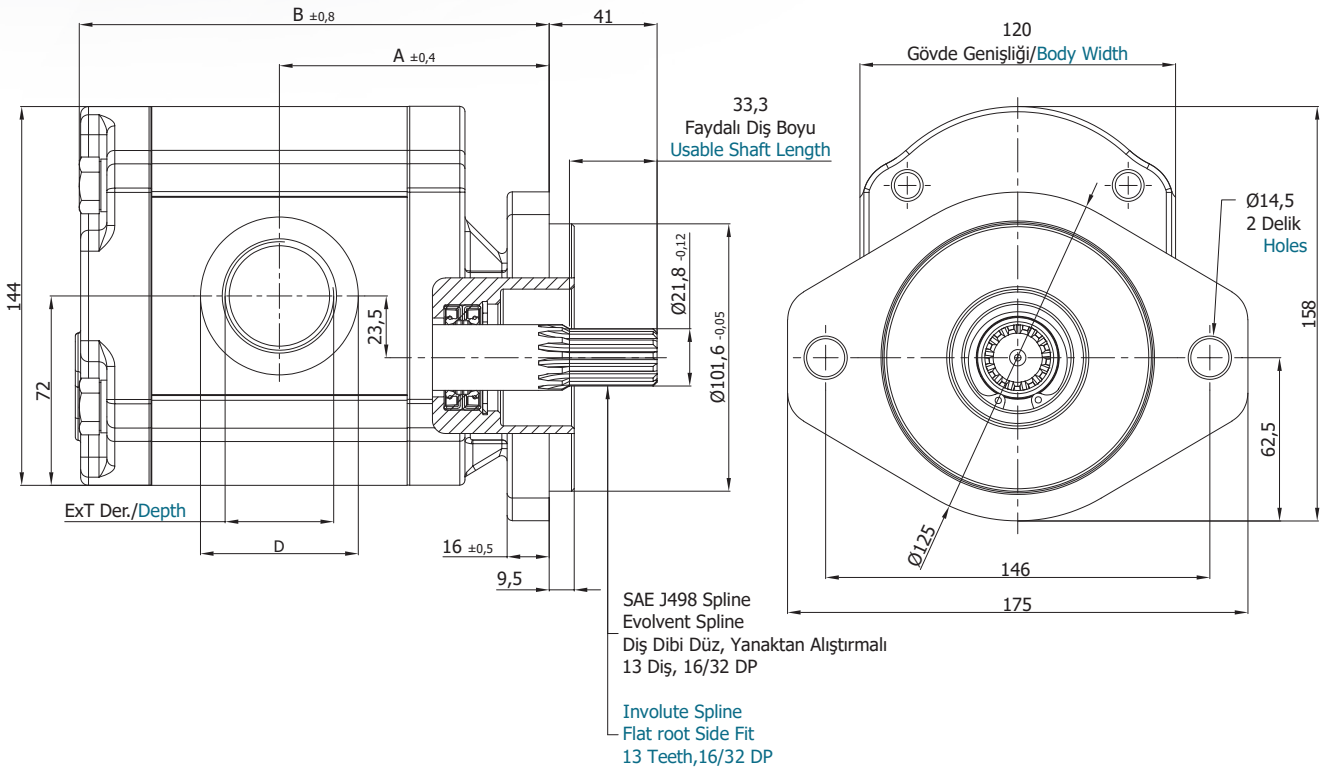


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet		Çıkış - Outlet	
						E	T	e	t
AP30.170.A/CHP05SN	17,0	250	3000	94,5	159,1	G 1	22	G 1	22
AP30.220.A/CHP05SN	22,0			96,5	163,1				
AP30.270.A/CHP05SN	27,0			98,0	166,1				
AP30.320.A/CHP05SN	32,0	240		99,5	169,1				
AP30.340.A/CHP05SN	34,0			100,0	170,1				
AP30.380.A/CHP05SN	38,0			101,5	173,1				
AP30.430.A/CHP05SN	43,0	230		103,0	176,1				
AP30.470.A/CHP05SN	47,0		2500	104,5	179,1				
AP30.510.A/CHP05SN	51,0	210		105,5	181,1				
AP30.560.A/CHP05SN	56,0	200		106,5	183,1	G 1 1/4			
AP30.610.A/CHP05SN	61,0	180		109,0	188,1				
AP30.730.A/CHP05SN	73,0	170		112,0	195,1				
AP30.820.A/CHP05SN	82,0	160		115,0	201,1	G 1 1/2		G 1 1/4	
AP30.900.A/CHP05SN	90,0	150	2000	118,0	207,1				
AP30.1000.A/CHP05SN	100,0	140		121,0	213,1				

K *Ön Kapak* / *Front Cover*

M *Şaft Tipi* / *Shaft Type*

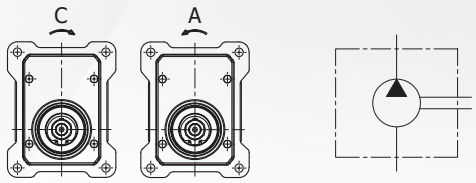


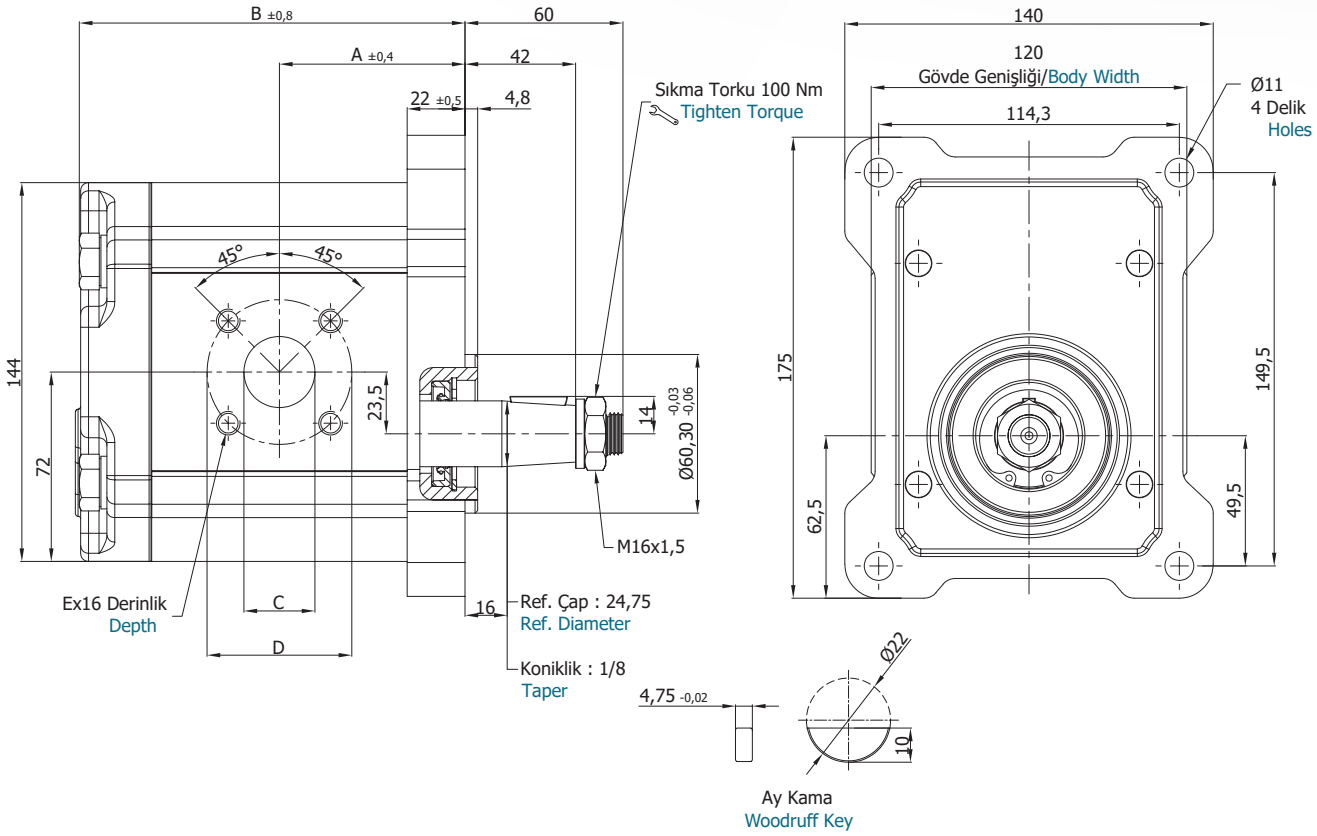


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						E	T	D	e	t	d
AP30.170.A/CKM04SN	17,0	250	3000	91,5	156,1	1 5/16"-12 UN-2B	22	50	1 1/16"-12 UN-2B	22	45
AP30.220.A/CKM04SN	22,0			93,5	160,1						
AP30.270.A/CKM04SN	27,0			95,0	163,1						
AP30.320.A/CKM04SN	32,0	240		96,5	166,1						
AP30.340.A/CKM04SN	34,0			97,0	167,1						
AP30.380.A/CKM04SN	38,0			98,5	170,1	1 5/8"-12 UN-2B		60	1 5/16"-12 UN-2B		50
AP30.430.A/CKM04SN	43,0	230		100,0	173,1						
AP30.470.A/CKM04SN	47,0		2500	101,5	176,1						
AP30.510.A/CKM04SN	51,0	210		102,5	178,1						
AP30.560.A/CKM04SN	56,0	200		103,5	180,1	1 7/8"-12 UN-2B		65	1 5/8"-12 UN-2B		60
AP30.610.A/CKM04SN	61,0	180		106,0	185,1						
AP30.730.A/CKM04SN	73,0	170		109,0	192,1						
AP30.820.A/CKM04SN	82,0	160		112,0	198,1						
AP30.900.A/CKM04SN	90,0	150	2000	115,0	204,1						
AP30.1000.A/CKM04SN	100,0	140		118,0	210,1						

L *Ön Kapak* / *Front Cover*

K *Şaft Tipi* / *Shaft Type*

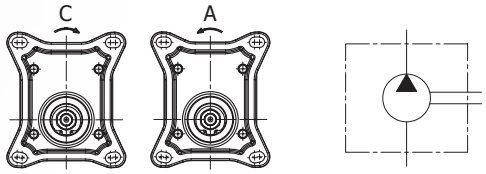


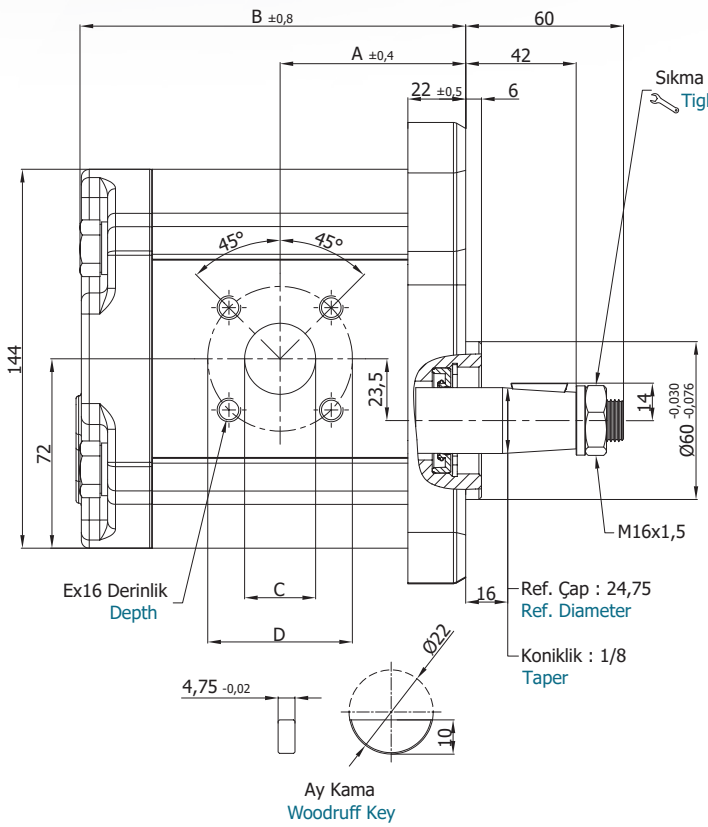


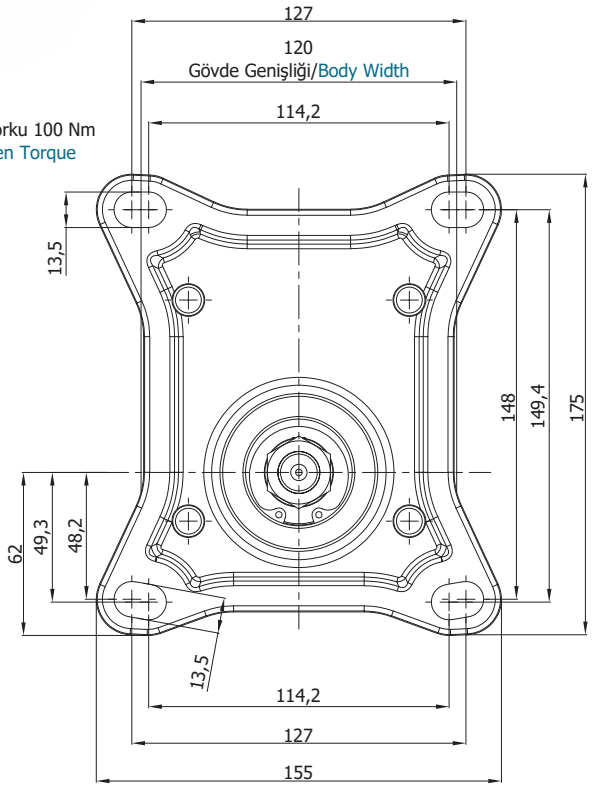
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP30.170.A/CLK01SN	17,0	250	3000	59,5	124,1	27	55	M8	19	55	M8
AP30.220.A/CLK01SN	22,0			61,5	128,1						
AP30.270.A/CLK01SN	27,0			63,0	131,1						
AP30.320.A/CLK01SN	32,0	240		64,5	134,1						
AP30.340.A/CLK01SN	34,0			65,0	135,1						
AP30.380.A/CLK01SN	38,0			66,5	138,1						
AP30.430.A/CLK01SN	43,0	230		68,0	141,1						
AP30.470.A/CLK01SN	47,0		2500	69,5	144,1						
AP30.510.A/CLK01SN	51,0	210		70,5	146,1						
AP30.560.A/CLK01SN	56,0	200		71,5	148,1						
AP30.610.A/CLK01SN	61,0	180		74,0	153,1						
AP30.730.A/CLK01SN	73,0	170		77,0	160,1						
AP30.820.A/CLK01SN	82,0	160		80,0	166,1						
AP30.900.A/CLK01SN	90,0	150	2000	83,0	172,1						
AP30.1000.A/CLK01SN	100,0	140		86,0	178,1						

M *Ön Kapak* / *Front Cover*

K *Şaft Tipi* / *Shaft Type*



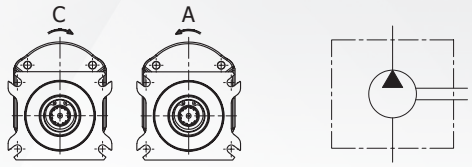


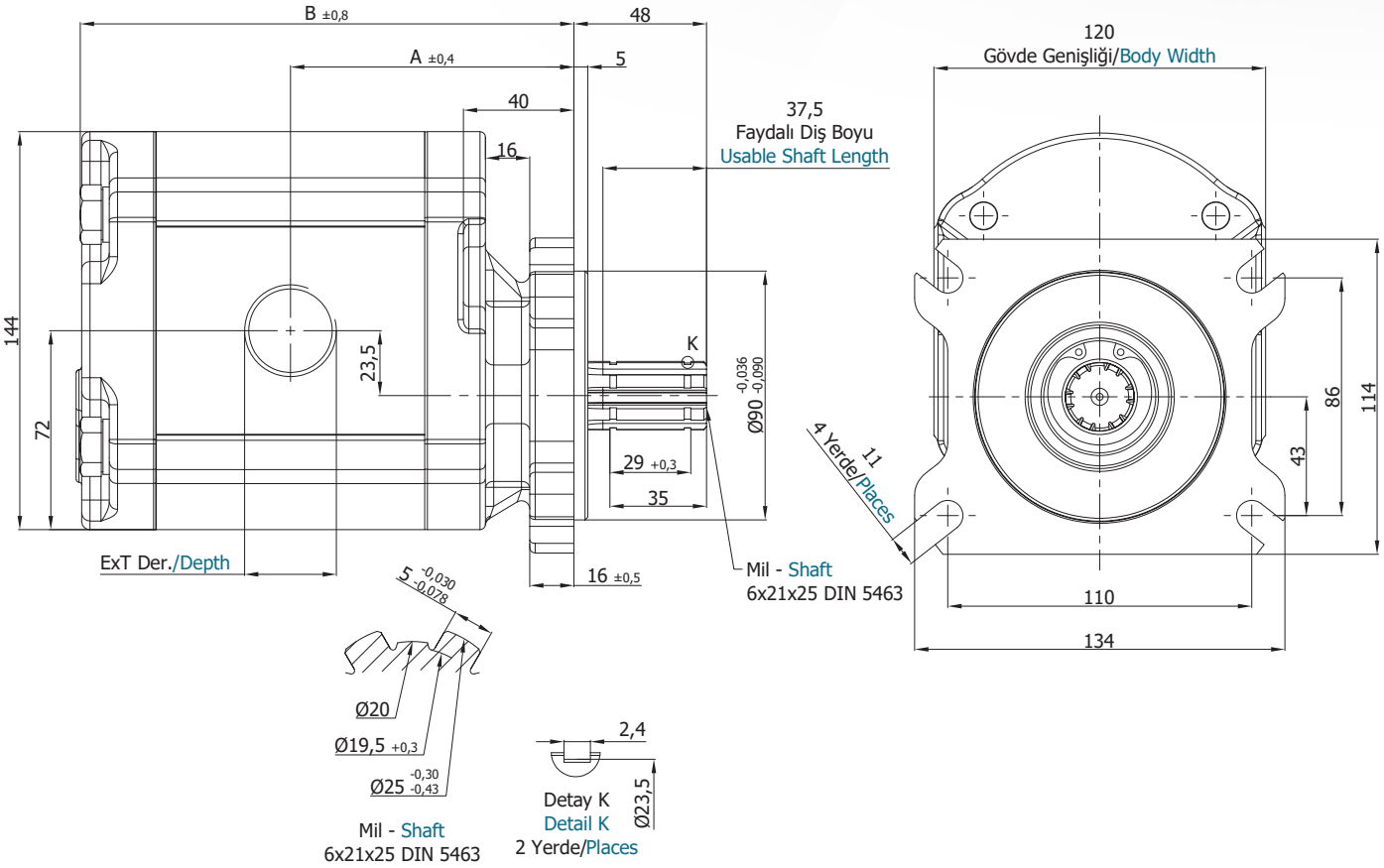


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP30.170.A/CMK01SN	17,0	250	3000	59,5	124,1	27	55	M8	19	55	M8
AP30.220.A/CMK01SN	22,0			61,5	128,1						
AP30.270.A/CMK01SN	27,0			63,0	131,1						
AP30.320.A/CMK01SN	32,0	240		64,5	134,1						
AP30.340.A/CMK01SN	34,0			65,0	135,1						
AP30.380.A/CMK01SN	38,0			66,5	138,1						
AP30.430.A/CMK01SN	43,0	230		68,0	141,1						
AP30.470.A/CMK01SN	47,0		2500	69,5	144,1						
AP30.510.A/CMK01SN	51,0	210		70,5	146,1						
AP30.560.A/CMK01SN	56,0	200		71,5	148,1						
AP30.610.A/CMK01SN	61,0	180		74,0	153,1						
AP30.730.A/CMK01SN	73,0	170		77,0	160,1						
AP30.820.A/CMK01SN	82,0	160		80,0	166,1						
AP30.900.A/CMK01SN	90,0	150	2000	83,0	172,1						
AP30.1000.A/CMK01SN	100,0	140		86,0	178,1						

N1 *Ön Kapak* / *Front Cover*

U1 *Şaft Tipi* / *Shaft Type*

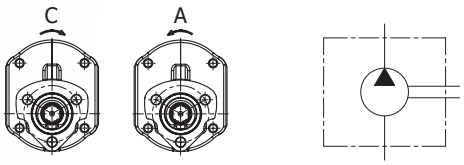


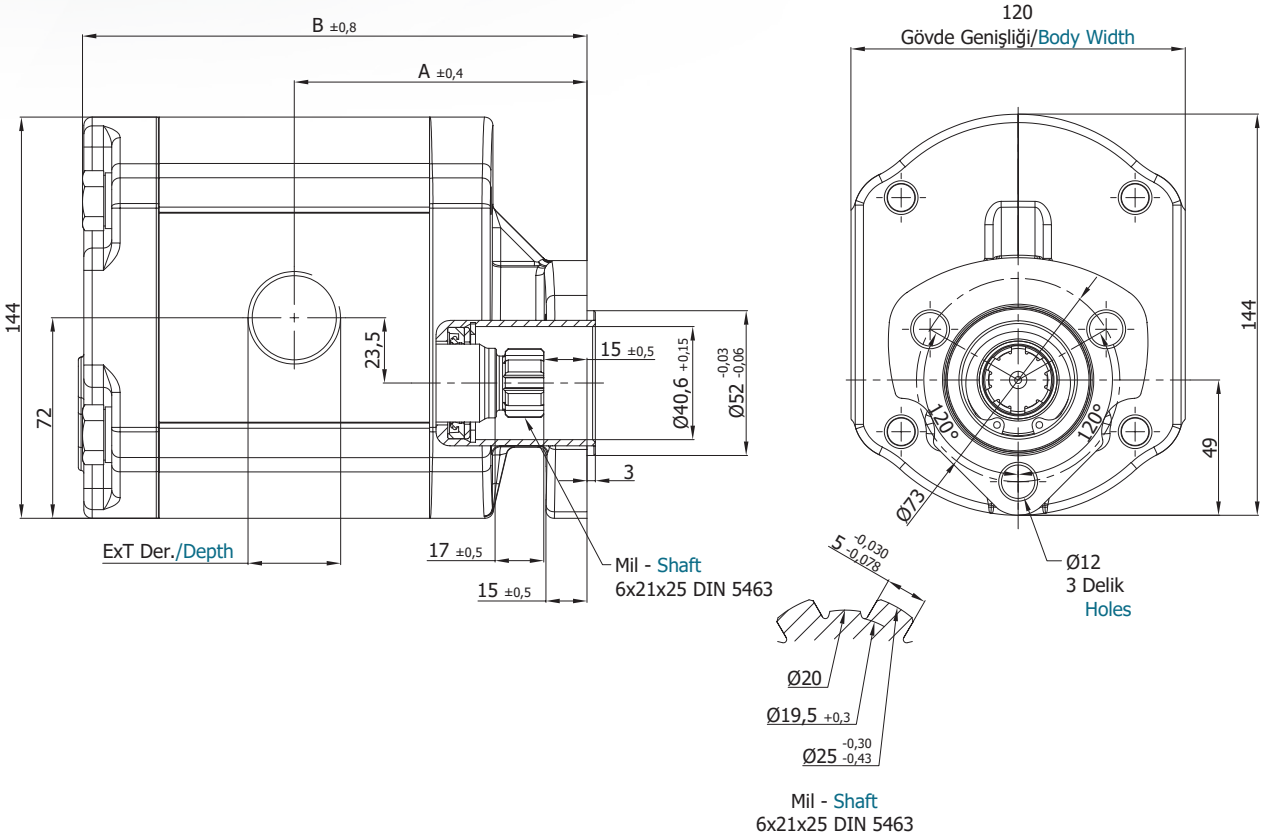


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet		Çıkış - Outlet	
						E	T	e	t
AP30.170.A/CN1U105SN	17,0	250	3000	91,5	156,1	G 1	22	G 1	22
AP30.220.A/CN1U105SN	22,0			93,5	160,1				
AP30.270.A/CN1U105SN	27,0			95,0	163,1				
AP30.320.A/CN1U105SN	32,0	240		96,5	166,1				
AP30.340.A/CN1U105SN	34,0			97,0	167,1				
AP30.380.A/CN1U105SN	38,0			98,5	170,1				
AP30.430.A/CN1U105SN	43,0	230		100,0	173,1				
AP30.470.A/CN1U105SN	47,0		2500	101,5	176,1				
AP30.510.A/CN1U105SN	51,0	210		102,5	178,1				
AP30.560.A/CN1U105SN	56,0	200		103,5	180,1	G 1 1/4			
AP30.610.A/CN1U105SN	61,0	180		106,0	185,1				
AP30.730.A/CN1U105SN	73,0	170		109,0	192,1				
AP30.820.A/CN1U105SN	82,0	160		112,0	198,1	G 1 1/2		G 1 1/4	
AP30.900.A/CN1U105SN	90,0	150	2000	115,0	204,1				
AP30.1000.A/CN1U105SN	100,0	140		118,0	210,1				

S *Ön Kapak* / *Front Cover*

U *Şaft Tipi* / *Shaft Type*

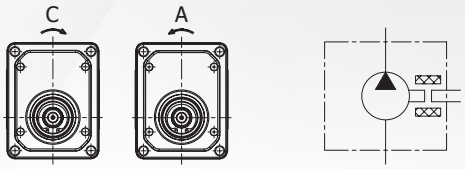


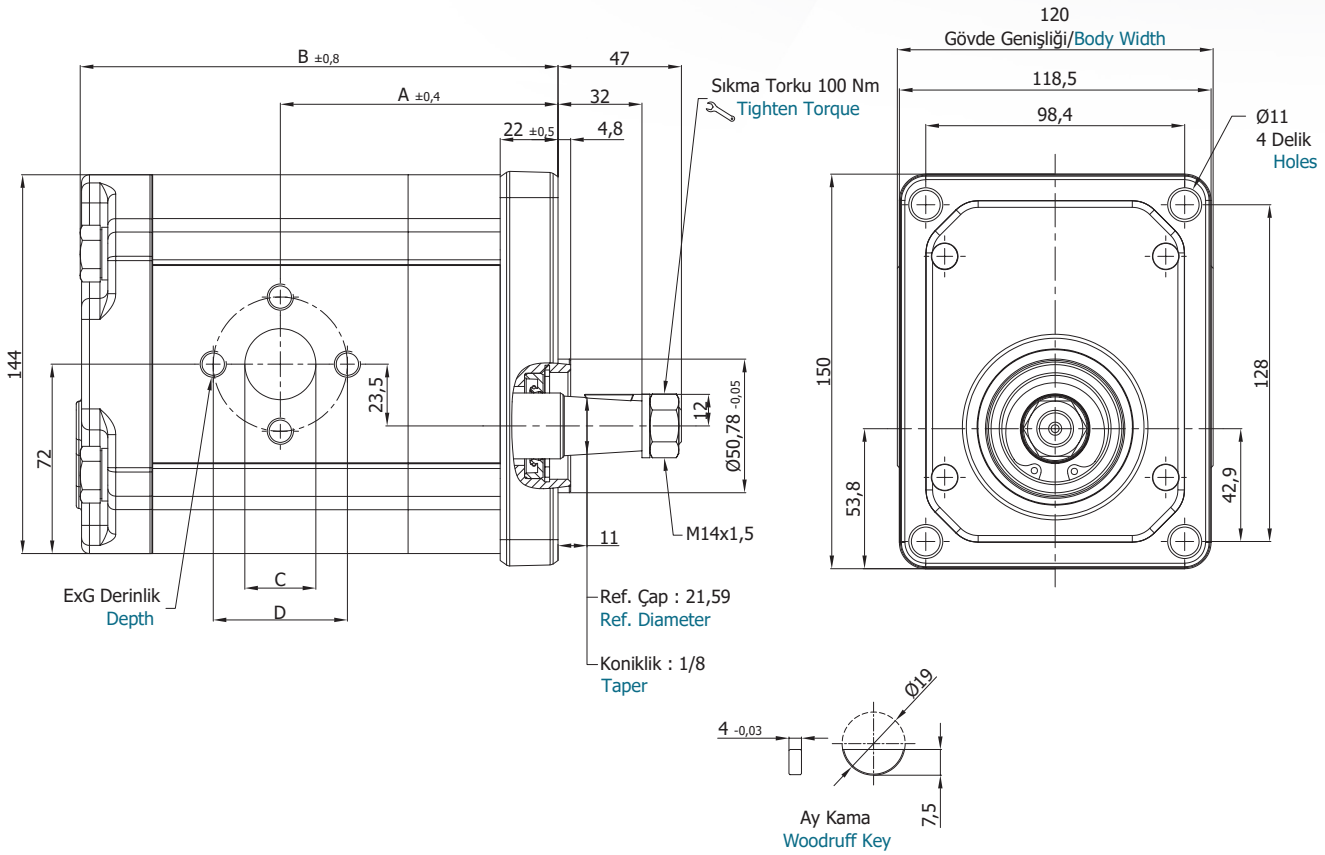


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet		Çıkış - Outlet	
						E	T	e	t
AP30.170.A/CSU05SN	17,0	250	3000	94,0	158,6	G 1	22	G 1	22
AP30.220.A/CSU05SN	22,0			96,0	162,6				
AP30.270.A/CSU05SN	27,0			97,5	165,6				
AP30.320.A/CSU05SN	32,0	240		99,0	168,6				
AP30.340.A/CSU05SN	34,0			99,5	169,6				
AP30.380.A/CSU05SN	38,0			101,0	172,6				
AP30.430.A/CSU05SN	43,0	230		102,5	175,6				
AP30.470.A/CSU05SN	47,0		2500	104,0	178,6				
AP30.510.A/CSU05SN	51,0	210		105,0	180,6				
AP30.560.A/CSU05SN	56,0	200		106,0	182,6	G 1 1/4			
AP30.610.A/CSU05SN	61,0	180		108,5	187,6				
AP30.730.A/CSU05SN	73,0	170		111,5	194,6				
AP30.820.A/CSU05SN	82,0	160		114,5	200,6	G 1 1/2		G 1 1/4	
AP30.900.A/CSU05SN	90,0	150	2000	117,5	206,6				
AP30.1000.A/CSU05SN	100,0	140		120,5	212,6				

A *Ön Kapak* / *Front Cover*

B *Şaft Tipi* / *Shaft Type*

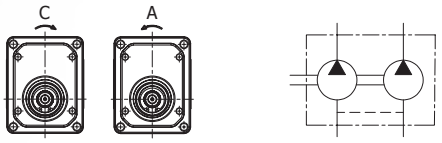


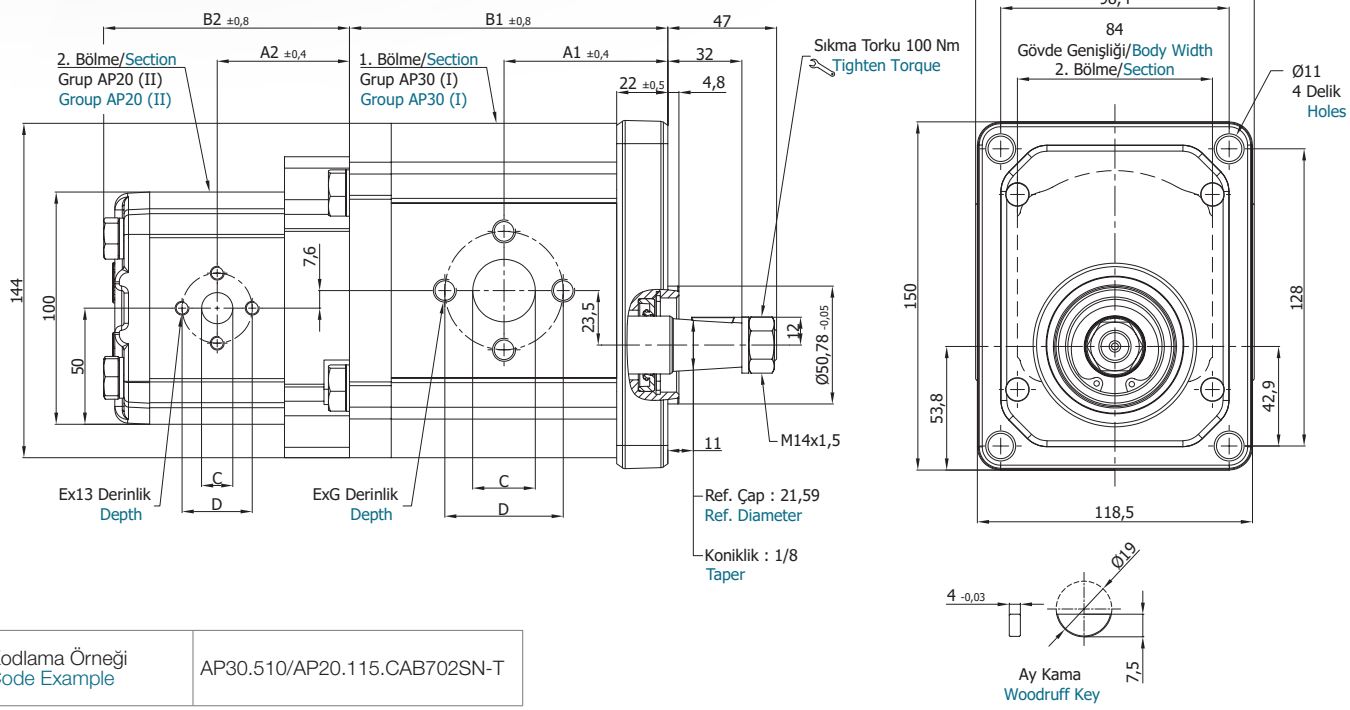


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	ExG	c	d	exg
AP30.170.A/CAB02SO7N	17,0	250	3000	94,5	159,1	27	51	M10x19	19	40	M8x16
AP30.220.A/CAB02SO7N	22,0			96,5	163,1						
AP30.270.A/CAB02SO7N	27,0			98,0	166,1						
AP30.320.A/CAB02SO7N	32,0	240		99,5	169,1						
AP30.340.A/CAB02SO7N	34,0			100,0	170,1						
AP30.380.A/CAB02SO7N	38,0			101,5	173,1						
AP30.430.A/CAB02SO7N	43,0	230		103,0	176,1						
AP30.470.A/CAB02SO7N	47,0		2500	104,5	179,1						
AP30.510.A/CAB02SO7N	51,0	210		105,5	181,1						
AP30.560.A/CAB02SO7N	56,0	200		106,5	183,1						
AP30.610.A/CAB02SO7N	61,0	180		109,0	188,1						
AP30.730.A/CAB02SO7N	73,0	170		112,0	195,1	33	62	M12x19	27	51	M10x19
AP30.820.A/CAB02SO7N	82,0	160		115,0	201,1						
AP30.900.A/CAB02SO7N	90,0	150	2000	118,0	207,1						
AP30.1000.A/CAB02SO7N	100,0	140		121,0	213,1						

A *Ön Kapak* / *Front Cover*

B *Şaft Tipi* / *Shaft Type*





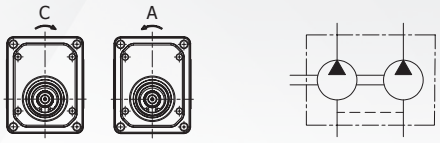
-Kodlama Örneği -Code Example	AP30.510/AP20.115.CAB702SN-T

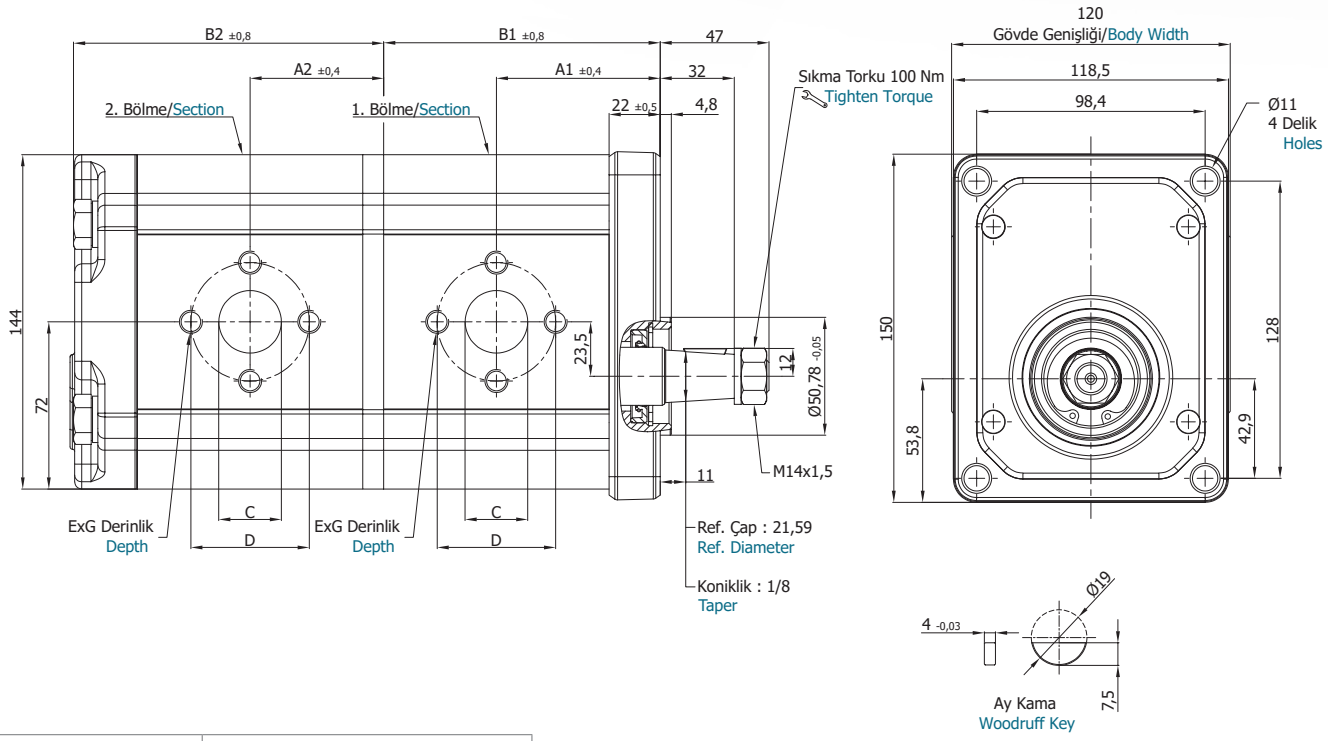
Grup Kodu Group Code		İletim Hacmi Displacement cm³/dev (cm³/rev)		Maks. Basınç Max. Pressure (bar)		Maks. Hız Max. Speed d/d (rpm)	1. Bölme/Section		2. Bölme/Section		Giriş – Inlet			Çıkış - Outlet		
AP30 (I)	AP20 (II)	AP30 (I)	AP20 (II)	AP30 (I)	AP20 (II)		A1 ±0,4	B1 ±0,8	A2 ±0,4	B2 ±0,8	C	D	ExG	c	d	exg
170	040	17,0	3,9	250	250	Bilgi için lütfen satış departmanı ile iletişime geçin. For information please contact with sales department.	59,5	115,1	51,2	94,2	27	51	M10x19	19	40	M8x16
220	060	22,0	5,9				61,5	119,1	52,8	97,3						
270	080	27,0	8,0				63,0	122,1	54,3	100,4						
320	095	32,0	9,4	240			64,5	125,1	55,5	102,7						
340	115	34,0	11,4				65,0	126,1	57,0	105,9						
380	140	38,0	13,9				66,5	129,1	59,0	109,8						
430	160	43,0	16,0	230			68,0	132,1	60,5	112,9						
470	190	47,0	19,2				69,5	135,1	69,0	130,0						
510	220	51,0	21,9	210	210		70,5	137,1	71,3	134,3						
560	250	56,0	24,8	200	190		71,5	139,1	73,8	139,4						
610	280	61,0	27,9	180	170		74,0	144,1	76,0	143,7						
730	320	73,0	32,0	170	160		77,0	151,1	79,0	149,9	33	62	M12x19	27	51	M10x19
820	340	82,0	34,0	160	150		80,0	157,1	80,5	153,4						
900	380	90,0	38,0	150	140		83,0	163,1	83,8	159,4						
1000	400	100,0	40,0	140	130		86,0	169,1	85,5	162,9						

2. Bölme (AP20 Pompalar) için Giriş ve Çıkış Port Ölçüleri Inlet and Outlet Port Dimensions for Section 2 (AP20 Pumps)	İletim Hacmi Displacement cm³/dev (cm³/rev)	Giriş - Inlet			Çıkış - Outlet		
		C	D	E	c	d	e
	4	12	30,2	M6	12	30,2	M6
	6 - 8	13,5			13,5		
	9,5 - 25	20	40	M8			
	28 - 40				20	40	M8

A *Ön Kapak* / *Front Cover*

B *Şaft Tipi* / *Shaft Type*



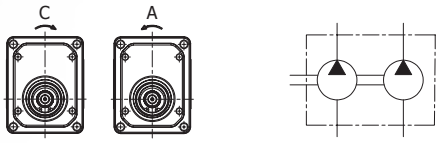


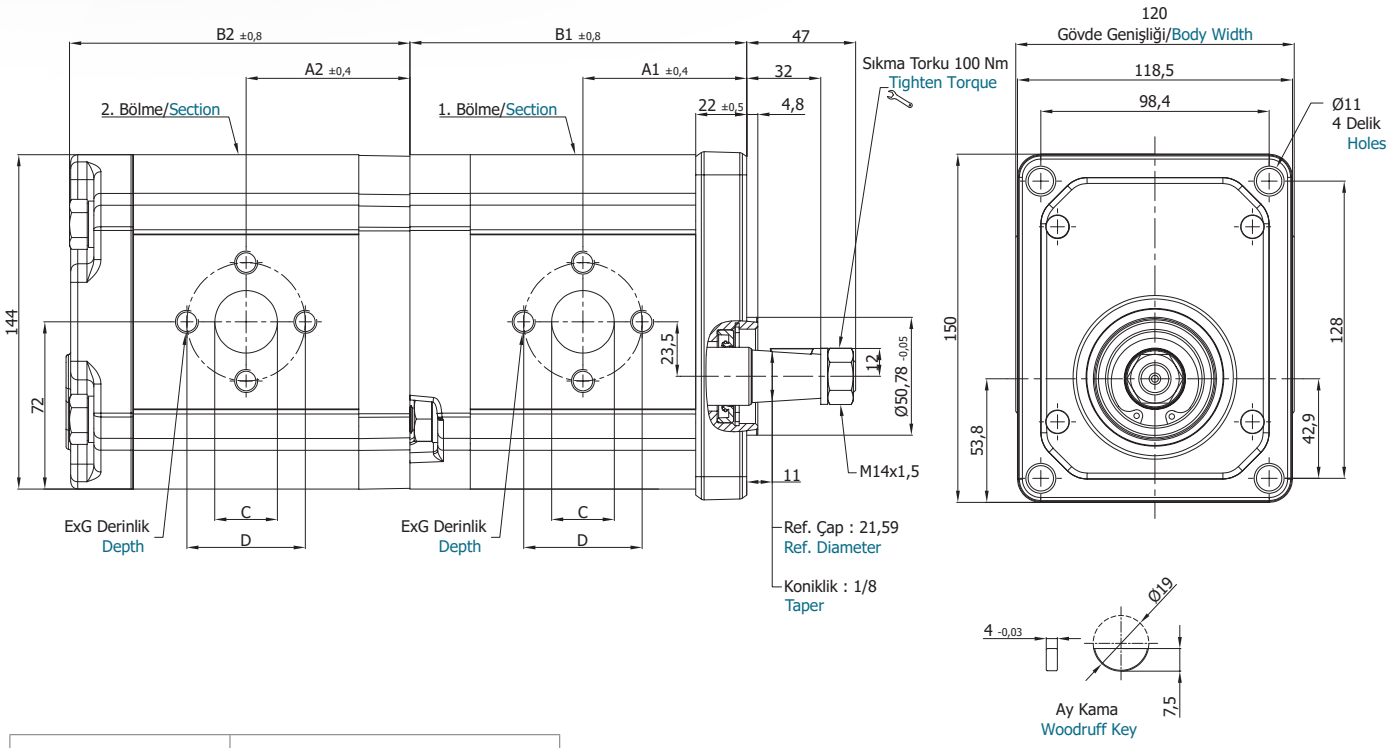
-Kodlama Örneği -Code Example	AP30.510/510.CAB702SN-T

Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	1. Bölme/Section		2. Bölme/Section		Giriş – Inlet			Çıkış - Outlet		
				A1 ±0,4	B1 ±0,8	A2 ±0,4	B2 ±0,8	C	D	ExG	c	d	exg
AP30.170.A/CAB702SN	17,0	250	3000	59,5	97,1	46,5	111,1	27	51	M10x19	19	40	M8x16
AP30.220.A/CAB702SN	22,0			61,5	101,1	48,5	115,1						
AP30.270.A/CAB702SN	27,0			63,0	104,1	50,0	118,1						
AP30.320.A/CAB702SN	32,0	240		64,5	107,1	51,5	121,1						
AP30.340.A/CAB702SN	34,0			65,0	108,1	52,0	122,1						
AP30.380.A/CAB702SN	38,0			66,5	111,1	53,5	125,1						
AP30.430.A/CAB702SN	43,0	230		68,0	114,1	55,0	128,1						
AP30.470.A/CAB702SN	47,0		2500	69,5	117,1	56,5	131,1						
AP30.510.A/CAB702SN	51,0	210		70,5	119,1	57,5	133,1						
AP30.560.A/CAB702SN	56,0	200		71,5	121,1	58,5	135,1						
AP30.610.A/CAB702SN	61,0	180		74,0	126,1	61,0	140,1						
AP30.730.A/CAB702SN	73,0	170		77,0	133,1	64,0	147,1	33	62	M12x19	27	51	M10x19
AP30.820.A/CAB702SN	82,0	160		80,0	139,1	67,0	153,1						
AP30.900.A/CAB702SN	90,0	150	2000	83,0	145,1	70,0	159,1						
AP30.1000.A/CAB702SN	100,0	140		86,0	151,1	73,0	165,1						

A Ön Kapak / Front Cover

B Şaft Tipi / Shaft Type





-Kodlama Örneği -Code Example	AP30.510/510.CAB702SN-M

Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	1. Bölme/Section		2. Bölme/Section		Giriş – Inlet			Çıkış - Outlet		
				A1 ±0,4	B1 ±0,8	A2 ±0,4	B2 ±0,8	C	D	ExG	c	d	exg
AP30.170.A/CAB702SN	17,0	250	3000	59,5	123,1	59,5	124,1	27	51	M10x19	19	40	M8x16
AP30.220.A/CAB702SN	22,0			61,5	127,1	61,5	128,1						
AP30.270.A/CAB702SN	27,0			63,0	130,1	63,0	131,1						
AP30.320.A/CAB702SN	32,0	240		64,5	133,1	64,5	134,1						
AP30.340.A/CAB702SN	34,0			65,0	134,1	65,0	135,1						
AP30.380.A/CAB702SN	38,0			66,5	137,1	66,5	138,1						
AP30.430.A/CAB702SN	43,0	230		68,0	140,1	68,0	141,1						
AP30.470.A/CAB702SN	47,0		2500	69,5	143,1	69,5	144,1						
AP30.510.A/CAB702SN	51,0	210		70,5	145,1	70,5	146,1						
AP30.560.A/CAB702SN	56,0	200		71,5	147,1	71,5	148,1						
AP30.610.A/CAB702SN	61,0	180		74,0	152,1	74,0	153,1						
AP30.730.A/CAB702SN	73,0	170		77,0	159,1	77,0	160,1	33	62	M12x19	27	51	M10x19
AP30.820.A/CAB702SN	82,0	160		80,0	165,1	80,0	166,1						
AP30.900.A/CAB702SN	90,0	150	2000	83,0	171,1	83,0	172,1						
AP30.1000.A/CAB702SN	100,0	140		86,0	177,1	86,0	178,1						

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