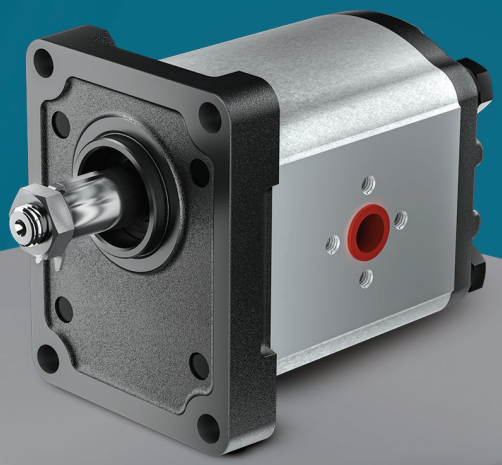
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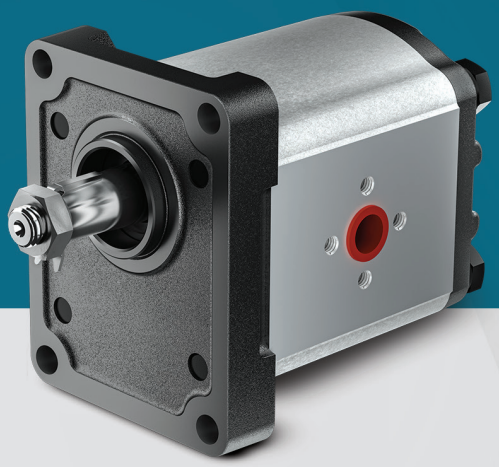
TECHNICAL CATALOGUE

TEKNİK KATALOG

HYDRAULIC GEAR PUMPS



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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

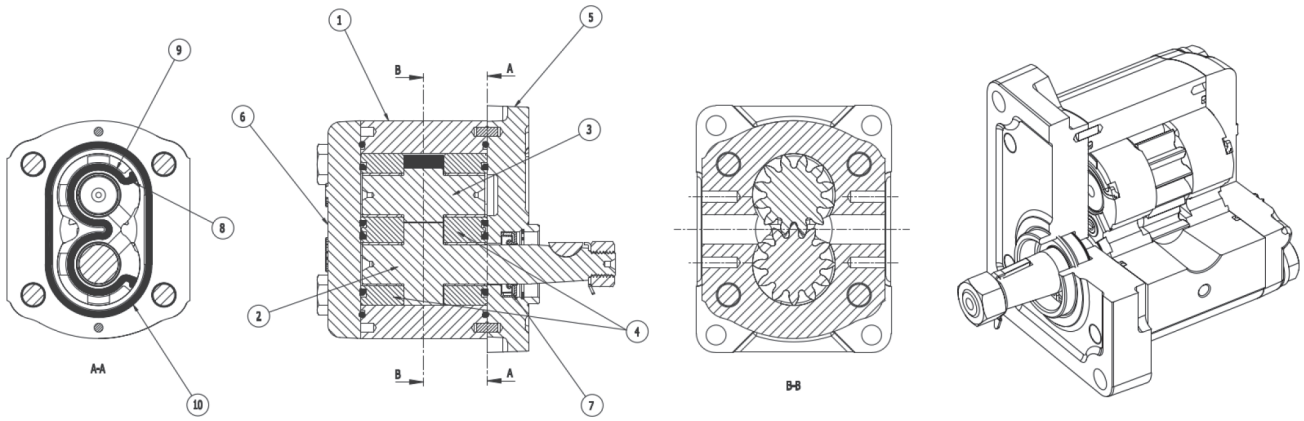
Dişli pompalar genellikle alüminyum veya döküm gövde, bir çift dişli, iki yataklama burcu, ön kapak ve arka kapaktan oluşur. Tahrik mili, ön kapaktan geçerek şaft keçesi ile sızdırmazlık sağlanmıştır. Yatak kuvvetleri, özel yatak esnekliği sayesinde temas hattı yerine yüzey teması oluşturmak için burç 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

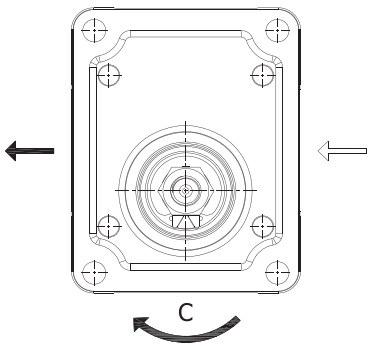
The direction of rotation of a gear pump is identified by looking at the pump from the front coverside and with the drive gear turned down (see figures below).

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.

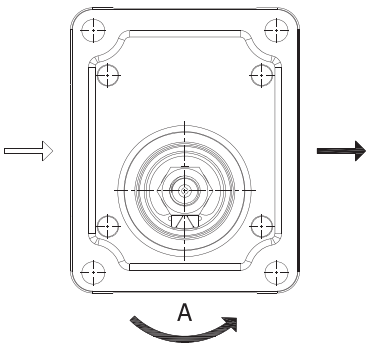
Pumps with counter-clockwise rotation (A) have a drive gear which turns counter-clockwise, with the suction port on the left and the pressure port on the right.

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.

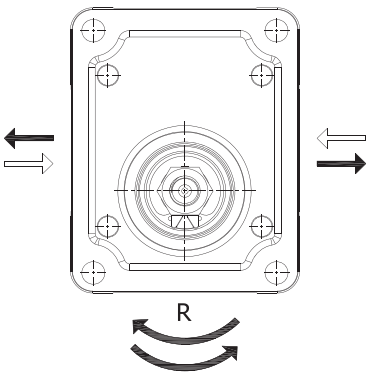
Sağ Dönüşlü Pompa
Clockwise Rotation

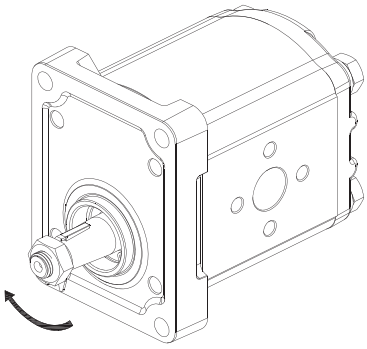


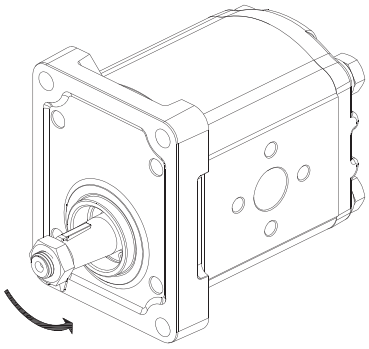
Sol Dönüşlü Pompa
Counter-clockwise Rotation

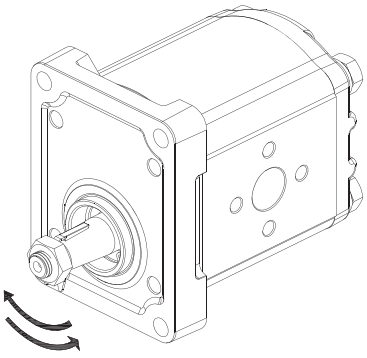


Çift Dönüşlü Pompa
Reversible Rotation









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.

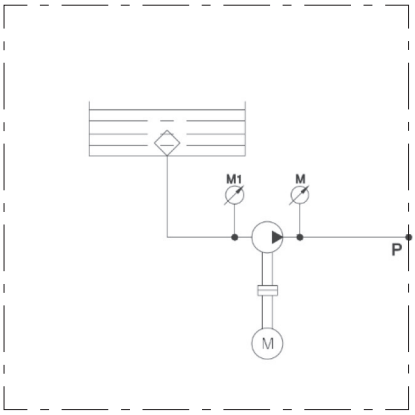
► The safety valves in the system should be set to the lowest level during the initial startup.

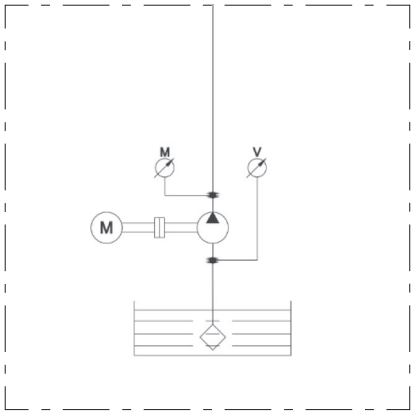
► For the pump, gradually increase pressure and speed until the operating values are reached, within the operating conditions specified in the catalog.

► 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.

➔ 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)	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.

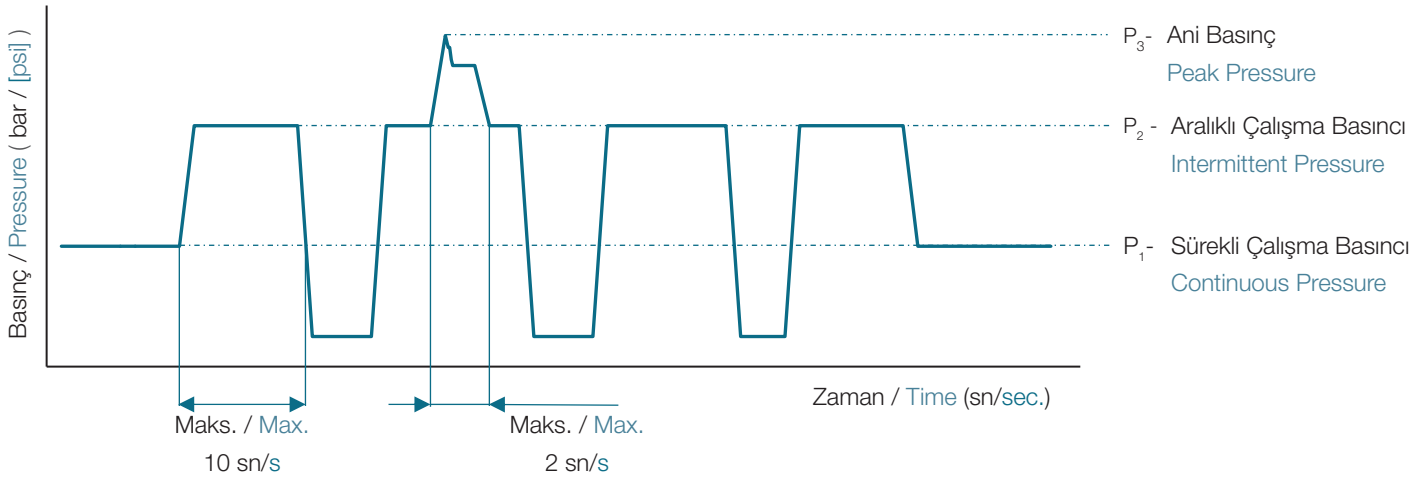
Minimum Giriş Basıncı / Minimum Inlet Pressure	0,7 bar (10 psi)
Maksimum Sızıntı Basıncı / Maximum Drain Pressure	+50% (Standart Değerler / Standard Values)
Minimum Sıcaklık / Minimum Temperature	-40 °C (-40 °F)
Maksimum Yağ Viskozitesi / Maximum Oil Viscosity	<2000 mm²/s (cst)

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.

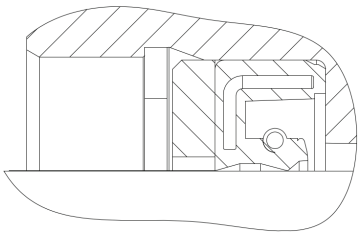
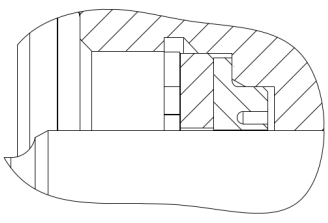
➔ Basınç Tanımlamaları

➔ 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.

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.

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.

➔ Periodical Maintenance

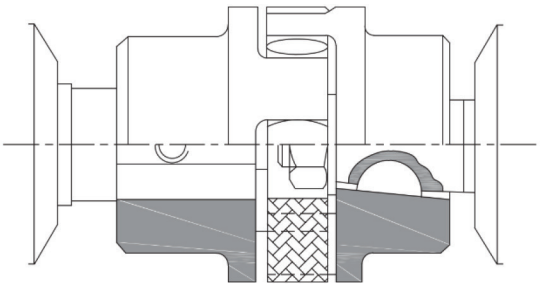
The pump exterior, especially the area where the shaft seal is located, should be kept clean. Dust and dirt in this area have an abrasive effect and reduce lifespan of the seal. Seal wear can cause leakage. Change the filters regularly to keep the fluid in the system clean. The oil level should be checked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

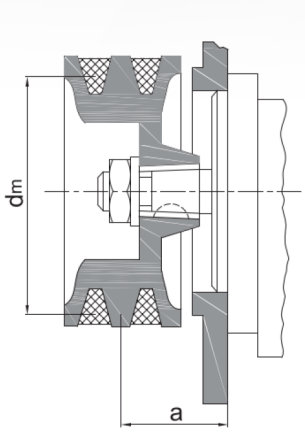
10. DRIVE ARRANGEMENTS

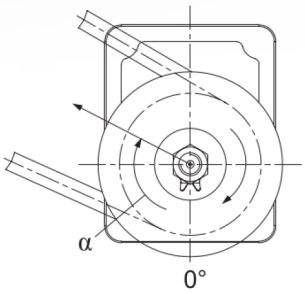
The flexible coupling does not transfer any radial or axial force to the pump. A coupling with a minimum clearance of 0,25 mm in the axial and radial direction should be chosen. A three pieces flexible couplings are recommended.



11. ÖN YATAKSIZ, KAYIŞ VE DİŞLİ İLE TAHRİK

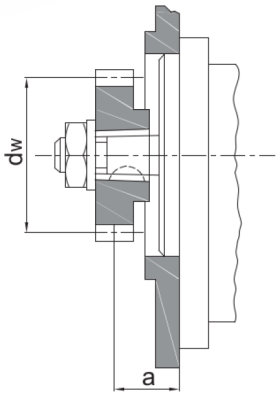
V kayışı veya dış tahrik dişlisi ile pompa tahriki önerildiği zaman aşağıdaki uygulama detayına bakınız.

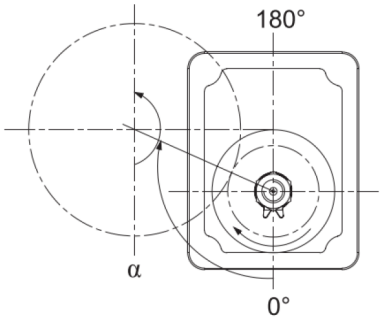




11. V-BELTS AND GEAR WHEELS WITHOUT OUTBOARD BEARING

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



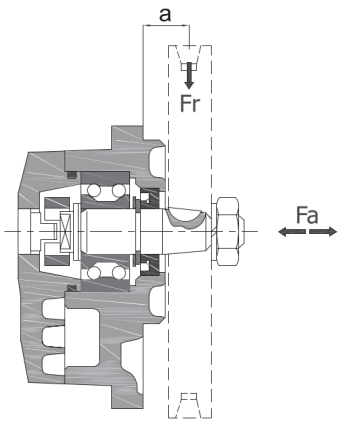


12. ÖN YATAK

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.

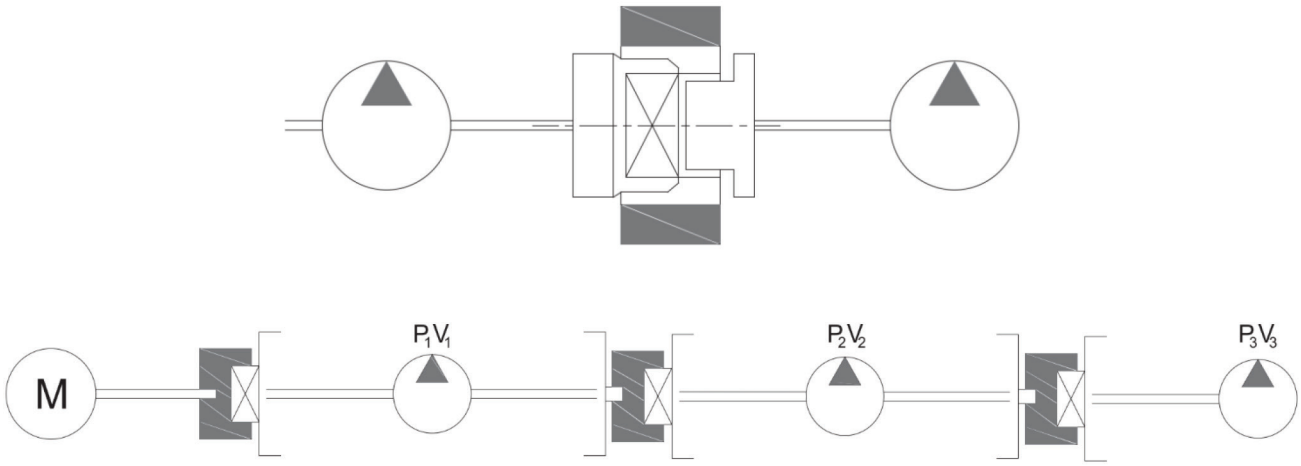


13. ÇOKLU TAHRİK EDEN DİŞLİ POMPALAR

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.

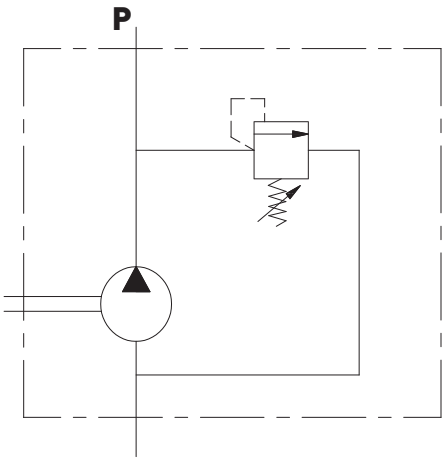
14. GEAR PUMPS WITH INTEGRAL VALVES

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

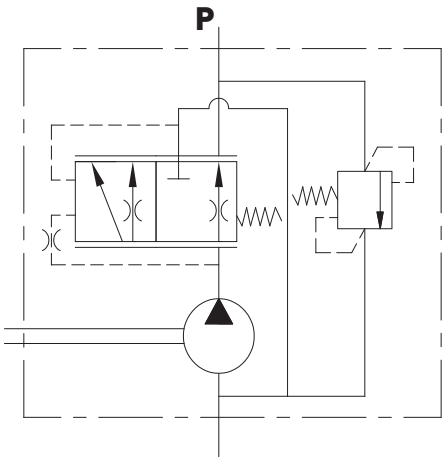
R1/R2/R3

Emniyet Valfi
Relief Valve



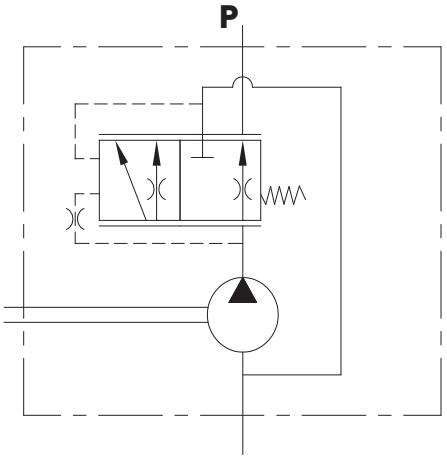
H (CR1/CR2/CR3)

Emniyet Valfi Akış Kontrol Valfi
Flow Control Valve With Relief Valve



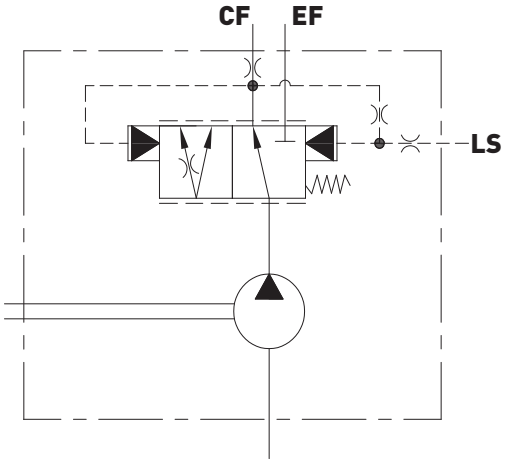
C

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.

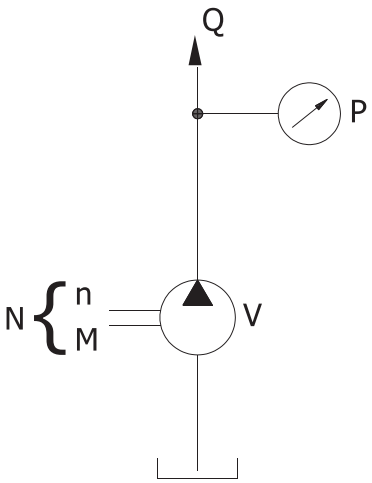
V (cm³/dev)	: İletim Hacmi
Q (lt/dak)	: Debi
P (bar)	: Basınç
M (Nm)	: Döndürme Torku
n (d/d)	: Hız
N (kW)	: Güç
ηv (%)	: Volumetrik Verim
ηm (%)	: Mekanik Verim
ηt (%)	: Toplam Verim

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

AP20 . 220/220/220 . C A B 7 02 S 07 N - T

Pompa Tipi / Pump Type	
AP20	Aluminyum Gövdeli Düz Dişli Pompa Aluminium Body Gear Pump
APH20	Aluminyum Gövdeli Helisel Dişli Pompa Aluminium Body Helical Gear Pump

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the “4 - 28 cc” range.

İletim Hacmi / Displacement cm³/dev / (cm³/rev)	
040	3,9 cm³/dev (cm³/rev)
060	5,9 cm³/dev (cm³/rev)
080	8,0 cm³/dev (cm³/rev)
095	9,4 cm³/dev (cm³/rev)
115	11,4 cm³/dev (cm³/rev)
140	13,9 cm³/dev (cm³/rev)
160	16,0 cm³/dev (cm³/rev)
190	19,2 cm³/dev (cm³/rev)
220	21,9 cm³/dev (cm³/rev)
250	24,8 cm³/dev (cm³/rev)
280	27,9 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)
400	40,0 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 Ø36,47 mm	
A3	Dikdörtgen kapak Square flange Ø60 mm	
B	2 Civatalı - Merkezleme (GERMAN) 2 Bolts - Centering Ø50 mm	
C	2 Civatalı - Merkezleme ve Oringli (GERMAN) 2 Bolts - Centering with Oring Ø52 mm	
D	2 Civatalı SAE “A“ (SAE “A” 2 BOLTS) 2 Bolts SAE “A“ Ø82,55 mm	
E	2 Civatalı - Merkezleme (GERMAN) 2 Bolts - Centering Ø50 mm	
G	Dikdörtgen kapak (GERMAN) Square flange Ø80 mm	
H	Ön yataklı (GERMAN) Outboard bearing Ø80 mm	
K	2 Civatalı SAE “B“ (SAE “B” 2 BOLTS) 2 Bolts SAE “B“ Ø101,6 mm	
M	2 Civatalı - Merkezleme 2 Bolts - Centering Ø52,34 mm	
N	4 Civatalı - Merkezleme ve Oringli (GERMAN) 4 Bolts - Centering with Oring Ø52 mm	
V	Ön yataklı (GERMAN) Outboard bearing Ø80 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		B E G
B	Konik - Kamalı Tapered key shaft 1:8		A
C	SAE spline şaft 9 diş SAE spline shaft 9T		B D
E	Kesik şaftlı Tang drive shaft		C
F	SAE spline şaft 11 diş SAE spline shaft 11T		D
G	Spline şaft DIN 5482 Spline shaft (B17x14)		A B E G
H	Paralel şaft Parallel shaft Ø15,875		B D G A
K	Konik - Kamalı Tapered key shaft 1:5		H V
L	Konik - Kamalı Tapered key shaft 1:5		G
M	SAE spline şaft J498 10 diş SAE spline shaft 16/32 DP 10T		D
N	Konik - Kamalı Tapered key shaft 1:8		M
S	SAE spline şaft J498B 13 diş SAE spline shaft 16/32 DP 13T		D K
T	Kesik şaftlı Tang drive shaft		N
U	Spline şaft 16x13x3,5 - 6 diş Spline shaft 16x13x3,5 - 6T		A3

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

-Kodlama Örneği (Tekli) -Code Example (Single)	AP20.220.CAB02SN APH20.220.CAB02SN-P

-Kodlama Örneği (Tandem) -Code Example (Tandem)	AP20.220/220/220.CAB702SN-T

-Kodlama Örneği (Modüler) -Code Example (Modular)	AP20.220/220/220.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)	
AP20.040	3,9	250	280	300	3500	650
AP20.060	5,9	250	280	300	3500	650
AP20.080	8,0	250	280	300	3500	650
AP20.095	9,4	250	280	300	3500	600
AP20.115	11,4	250	280	300	3000	600
AP20.140	13,9	250	280	300	3000	600
AP20.160	16,0	250	280	300	3000	600
AP20.190	19,2	250	280	300	3000	600
AP20.220	21,9	210	240	260	2500	600
AP20.250	24,8	190	220	240	2500	600
AP20.280	27,9	170	200	220	2200	600
AP20.320	32,0	160	190	210	2000	500
AP20.340	34,0	150	180	200	2000	500
AP20.380	38,0	140	170	190	1750	500
AP20.400	40,0	130	150	170	1750	500

P1	Sürekli Çalışma Basıncı Continuous Pressure

P2	Aralıklı Çalışma Basıncı Intermittent Pressure

P3	Ani Basınç Peak Pressure

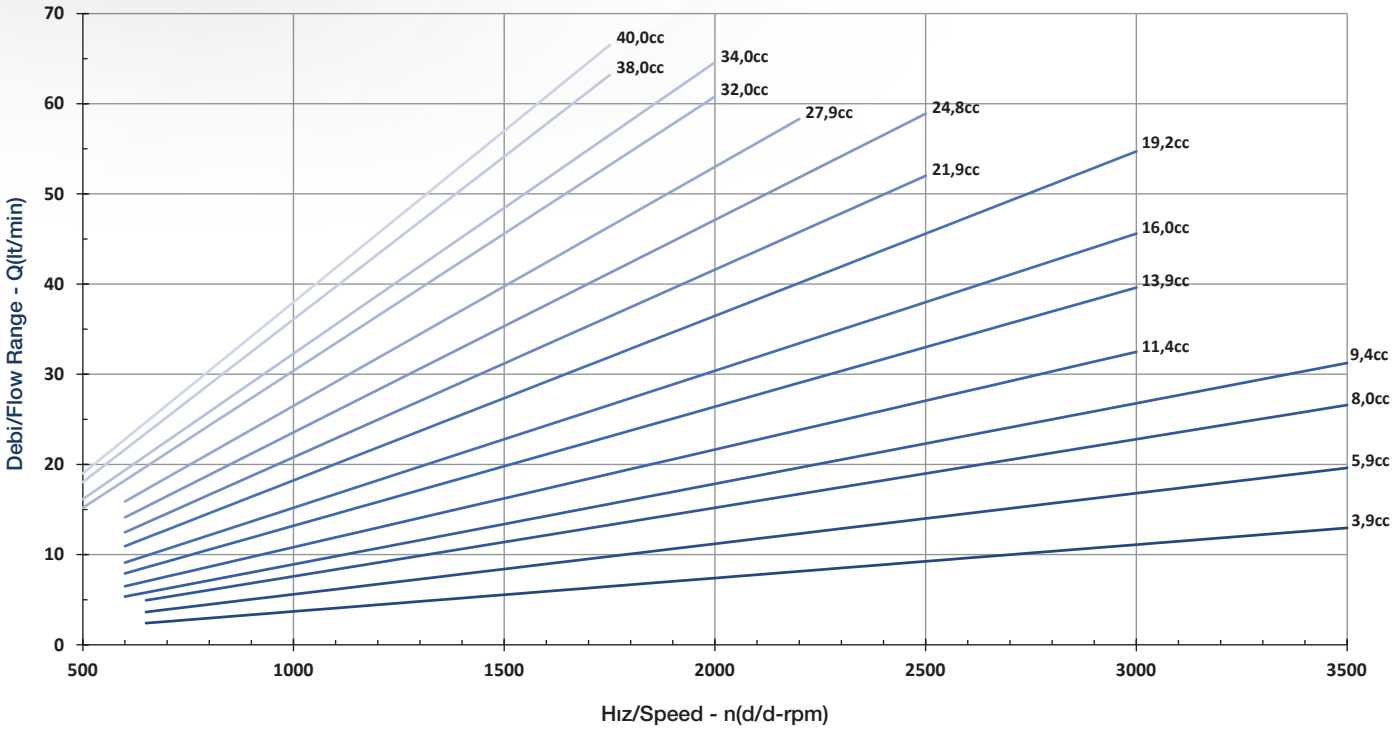
Pompa Tipi Pump Type	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç / Max. Pressure			Maks. Hız Max. Speed	Min. Hız Min. Speed
		P1	P2	P3		
		bar			d/d (rpm)	
APH20.040	3,9	250	280	300	3500	650
APH20.060	5,9	250	280	300	3500	650
APH20.080	8,0	250	280	300	3500	650
APH20.095	9,4	250	280	300	3500	600
APH20.115	11,4	250	280	300	3000	600
APH20.140	13,9	250	280	300	3000	600
APH20.160	16,0	250	280	300	3000	600
APH20.190	19,2	250	280	300	3000	600
APH20.220	21,9	210	240	260	2500	600
APH20.250	24,8	190	220	240	2500	600
APH20.280	27,9	170	200	220	2200	600

P1	Sürekli Çalışma Basıncı Continuous Pressure

P2	Aralıklı Çalışma Basıncı Intermittent Pressure

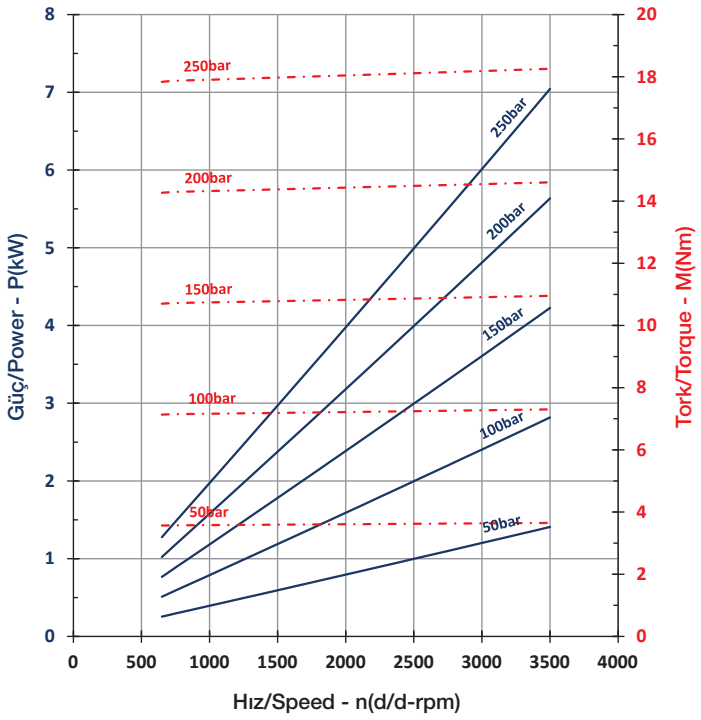
P3	Ani Basınç Peak Pressure

AP20 POMPALARIN DEBİ EĞRİLERİ / FLOW CURVES OF AP20 PUMPS



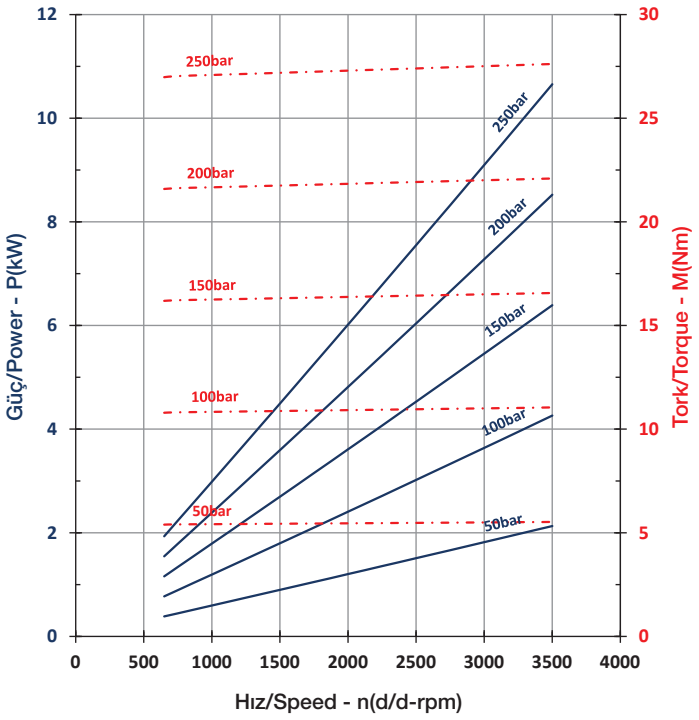
* Değerler "4 - 28 cc" aralığında APH20 için de geçerlidir. Values also apply for APH20 in the "4 - 28 cc" range.

AP20.040



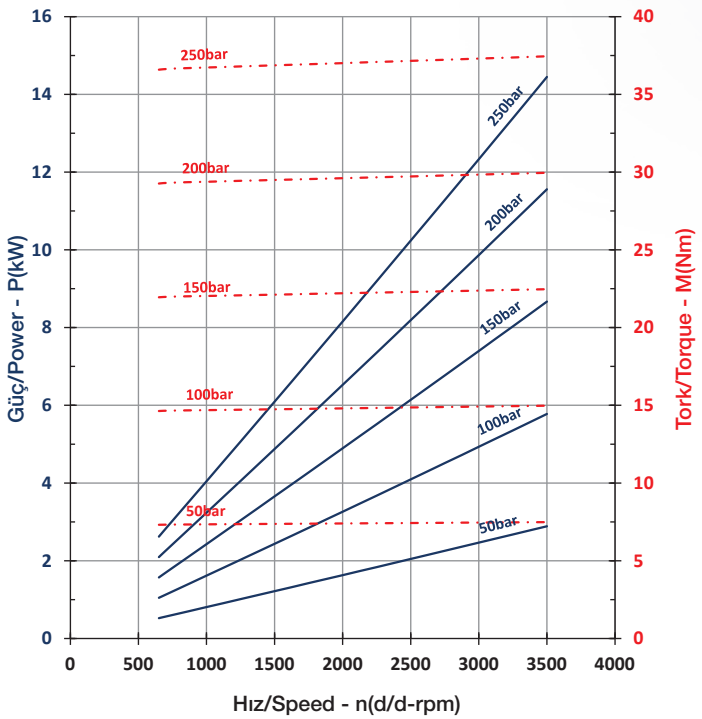
* Değerler "4 - 28 cc" aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the "4 - 28 cc" range.

AP20.060



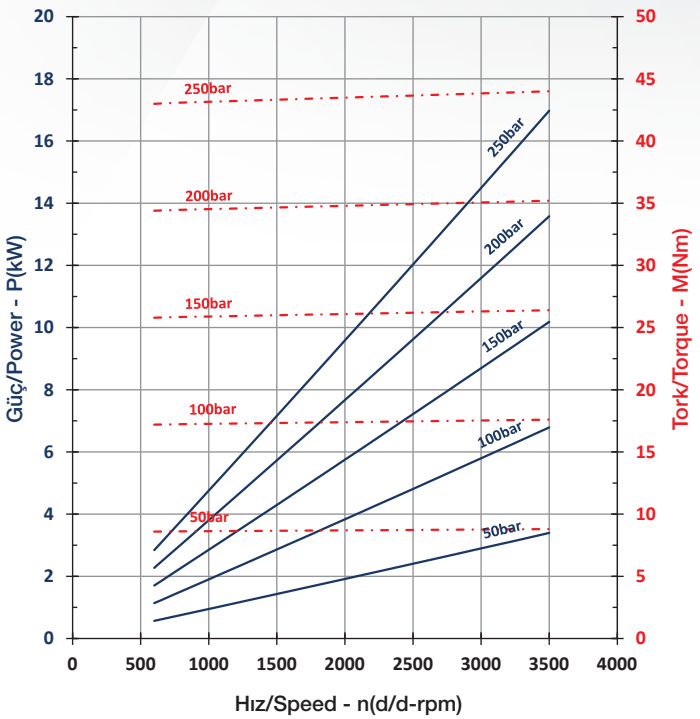
* Değerler "4 - 28 cc" aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the "4 - 28 cc" range.

AP20.080



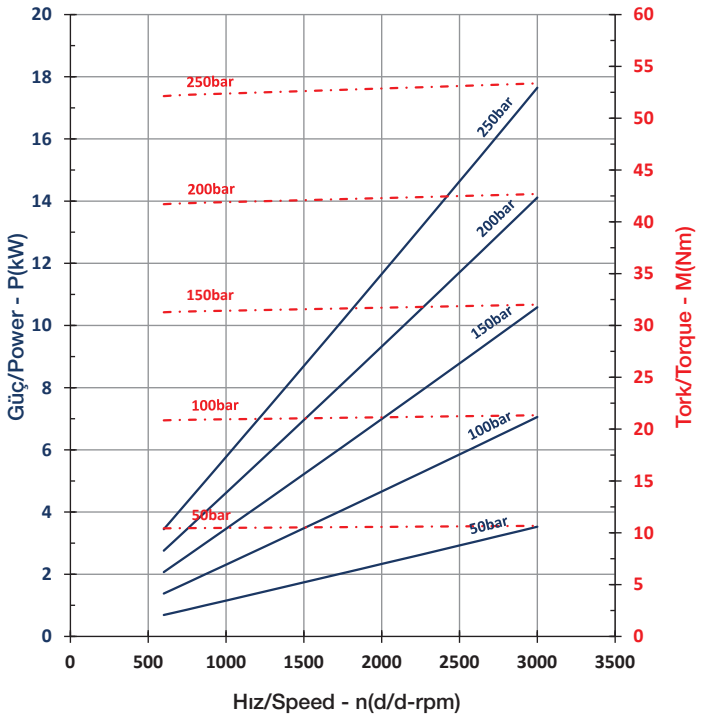
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the “4 - 28 cc” range.

AP20.095



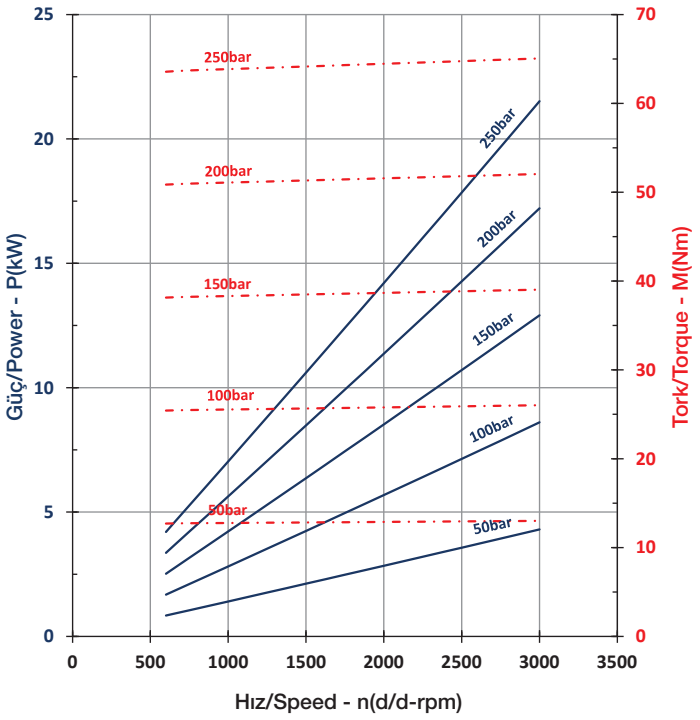
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the “4 - 28 cc” range.

AP20.115



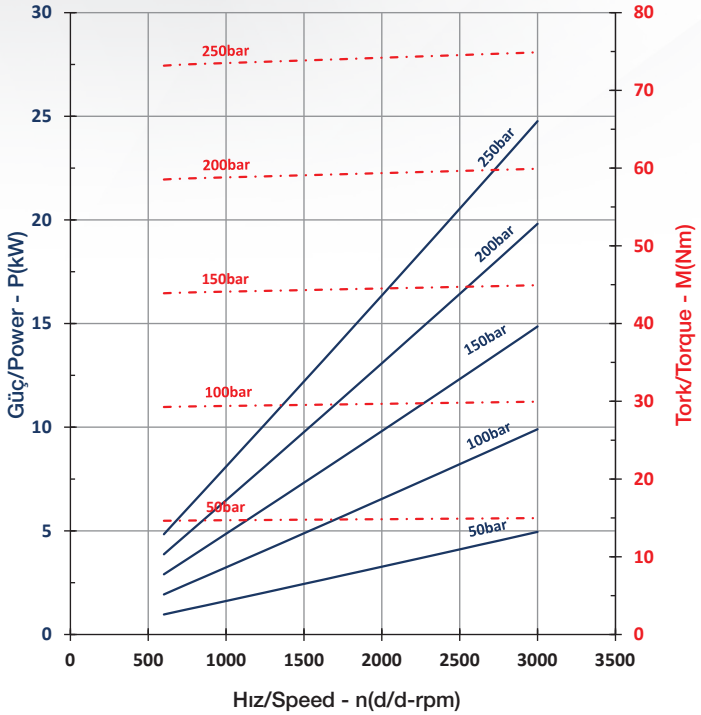
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the “4 - 28 cc” range.

AP20.140



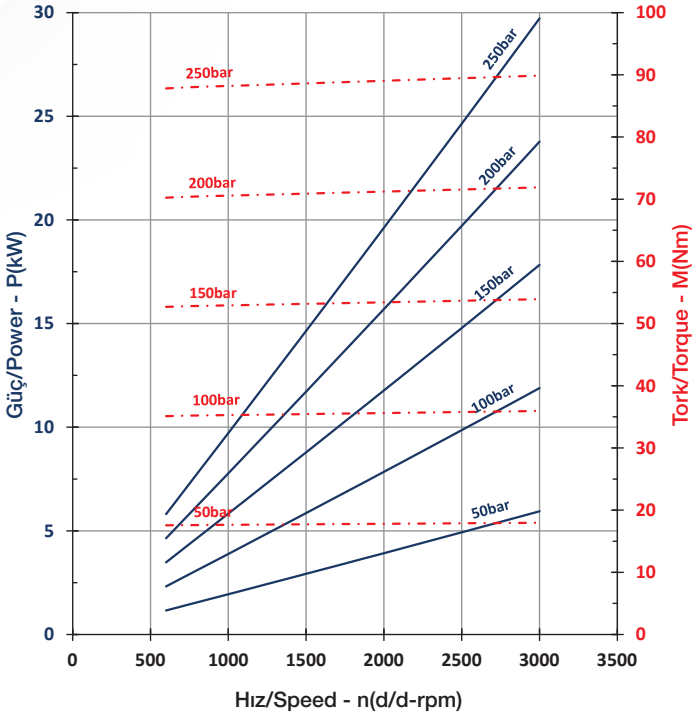
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the “4 - 28 cc” range.

AP20.160



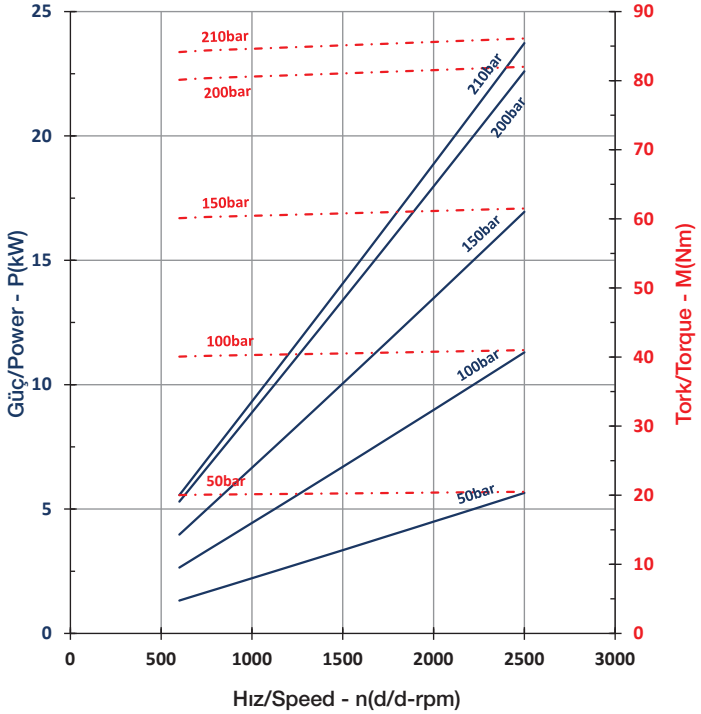
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the “4 - 28 cc” range.

AP20.190



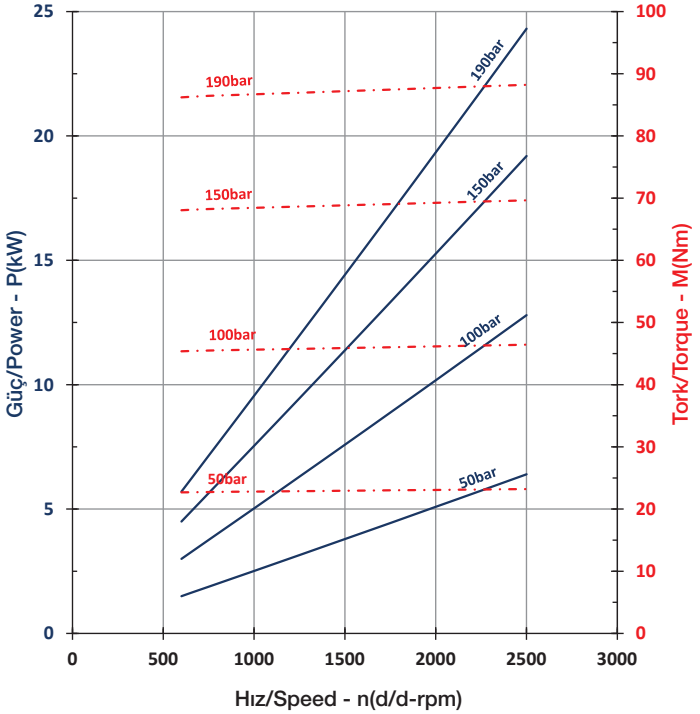
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the “4 - 28 cc” range.

AP20.220



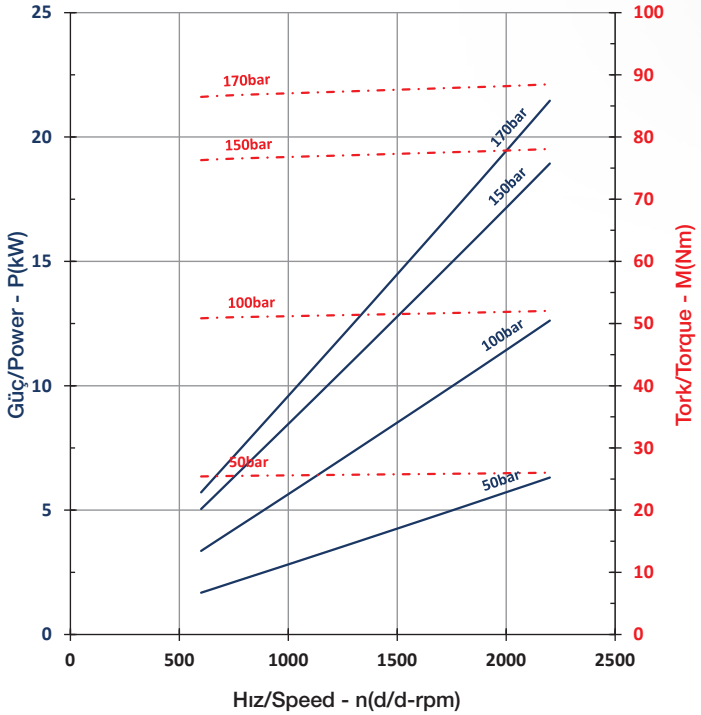
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the “4 - 28 cc” range.

AP20.250

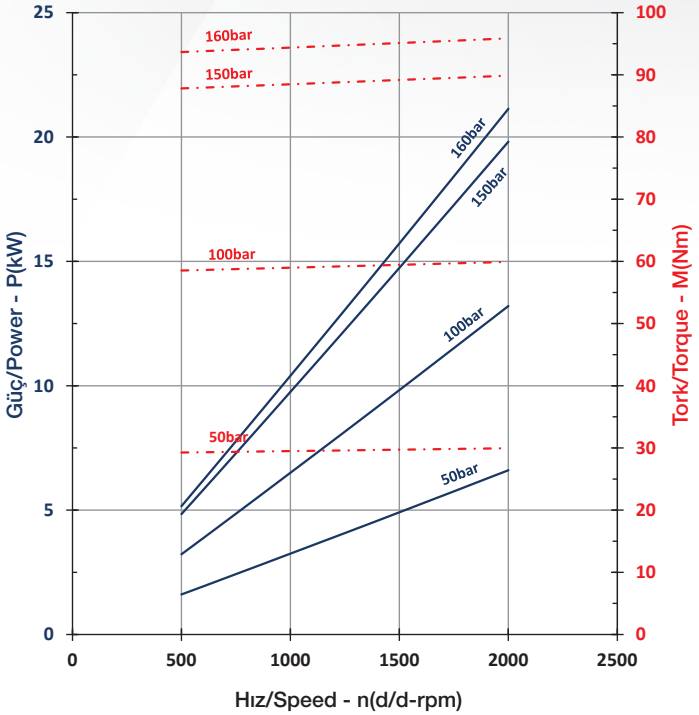


* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the “4 - 28 cc” range.

AP20.280

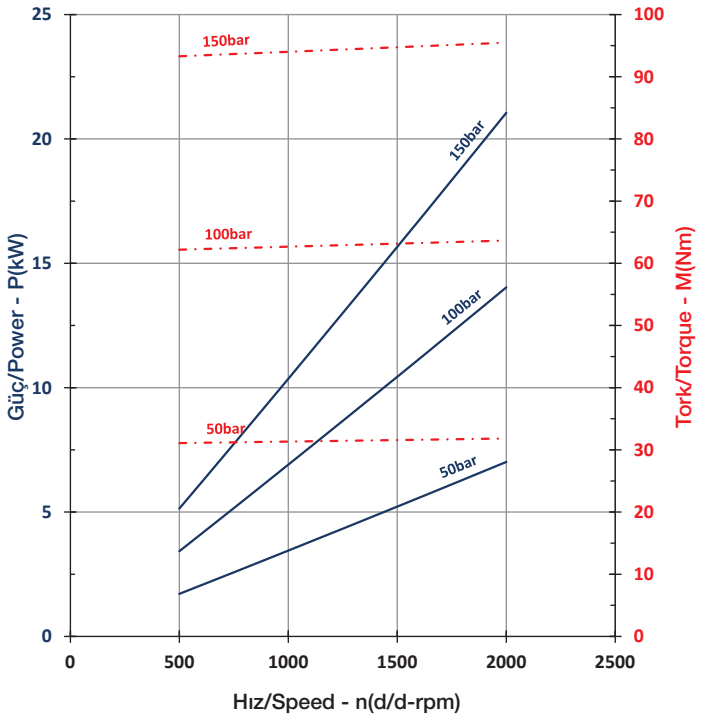


AP20.320

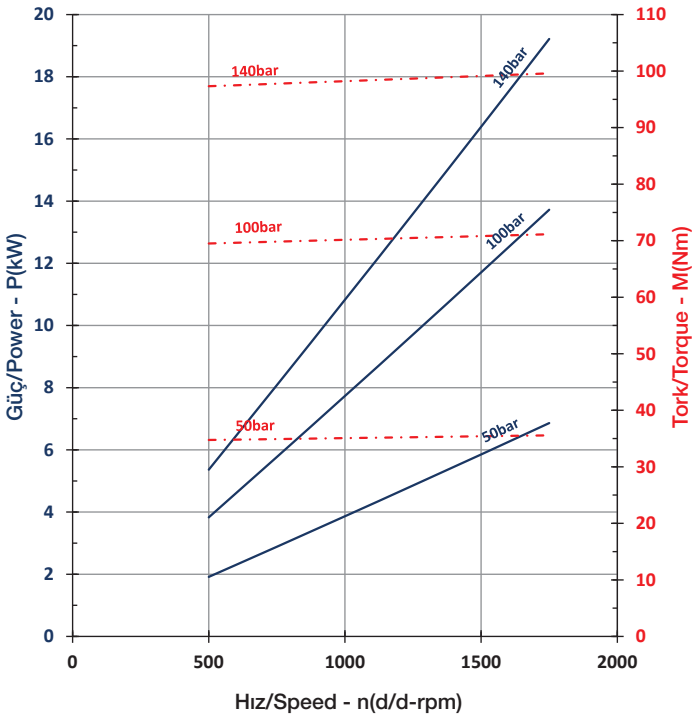


* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir.
* Values also apply for APH20 in the “4 - 28 cc” range.

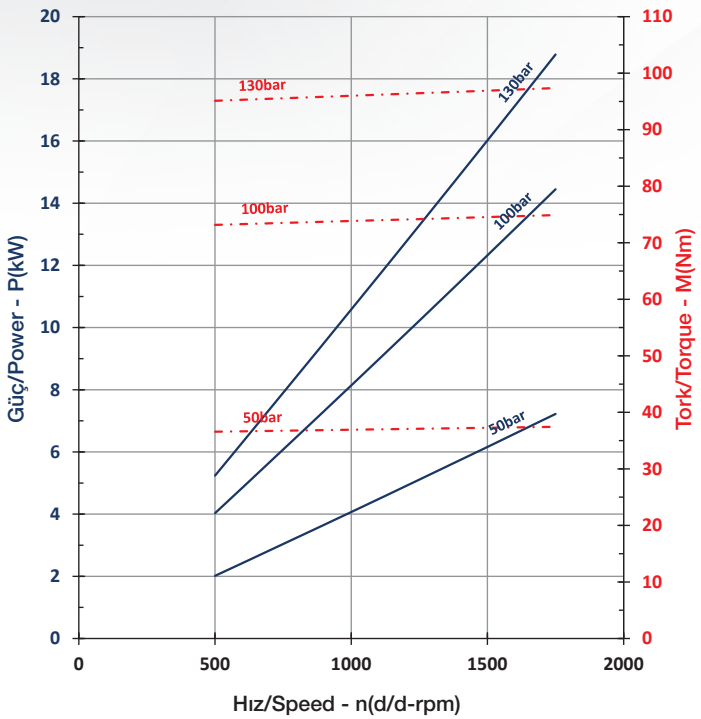
AP20.340



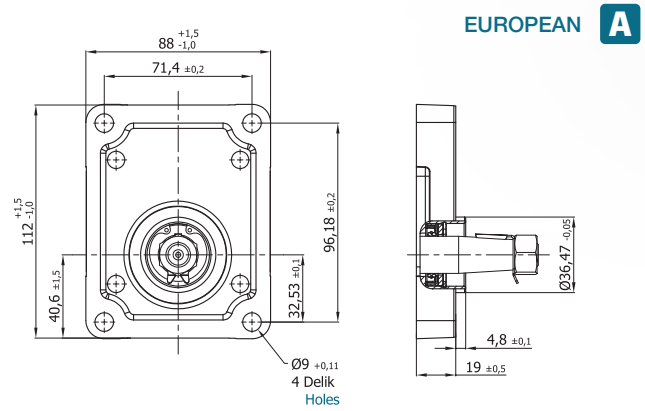
AP20.380



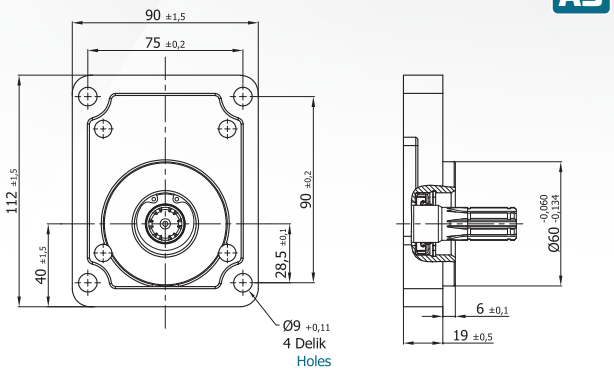
AP20.400


Güç/Power - P(kW)
Tork/Torque - M(Nm)
Hız/Speed - n(d/d-rpm)
130bar
100bar
50bar
130bar
100bar
50bar
0
2
4
6
8
10
12
14
16
18
20
0
10
20
30
40
50
60
70
80
90
100
110
0
500
1000
1500
2000

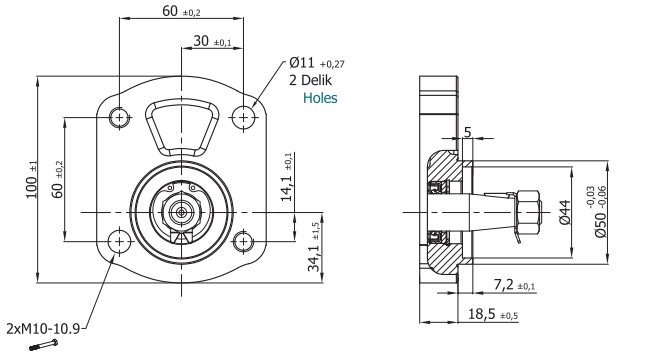
EUROPEAN A



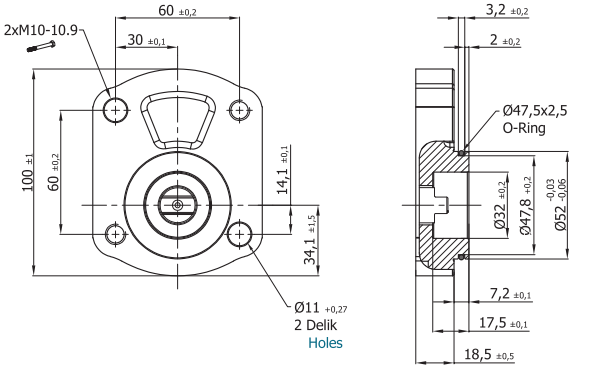
A3



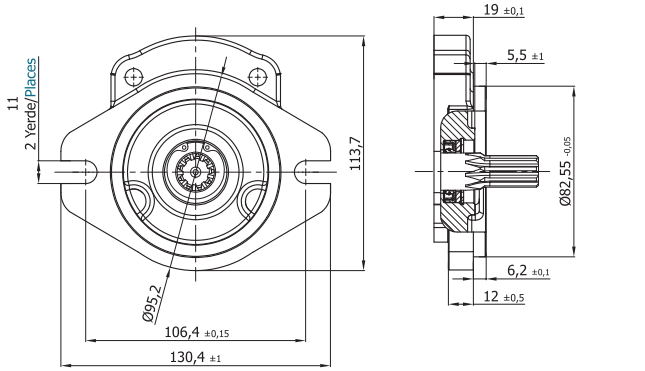
GERMAN 2 BOLTS B



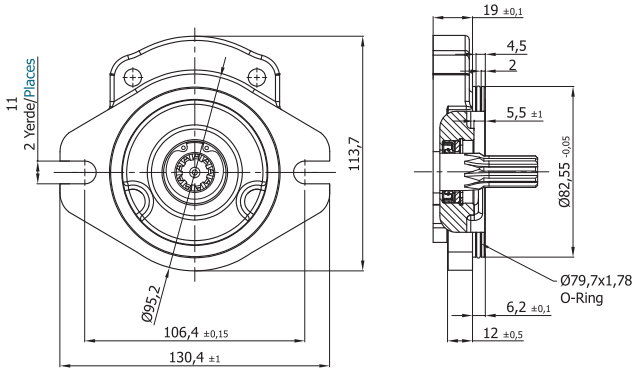
GERMAN 2 BOLTS C



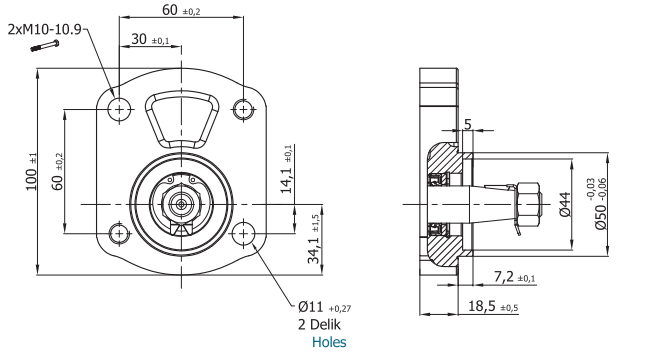
SAE "A" 2 BOLTS D



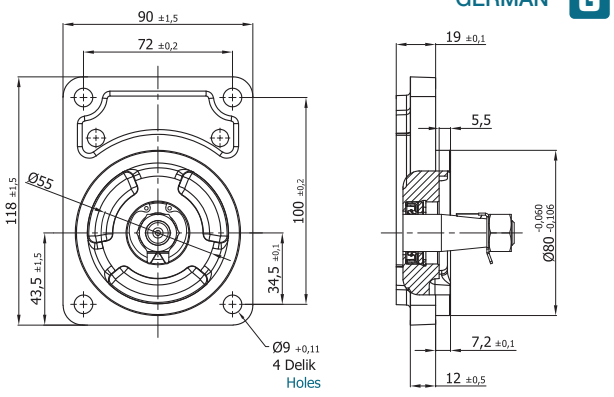
SAE "A" 2 BOLTS DO



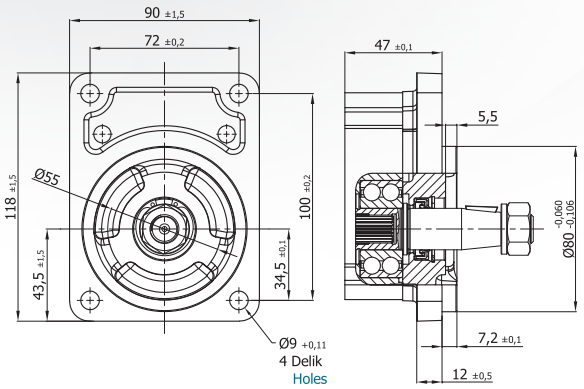
GERMAN 2 BOLTS E



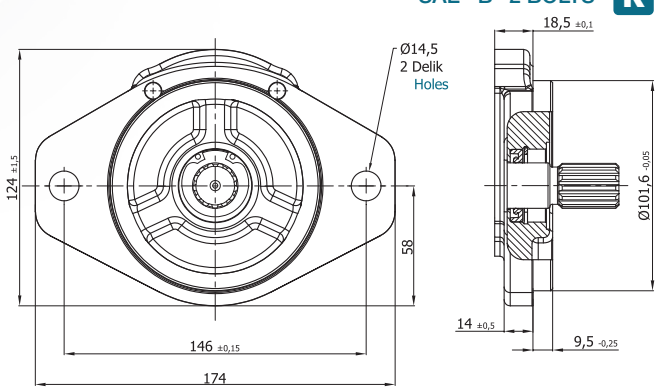
GERMAN G



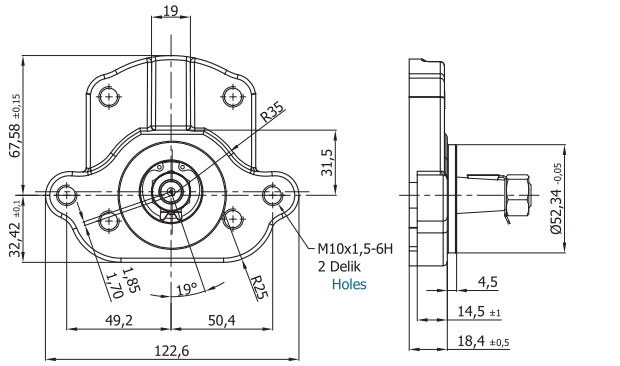
GERMAN H



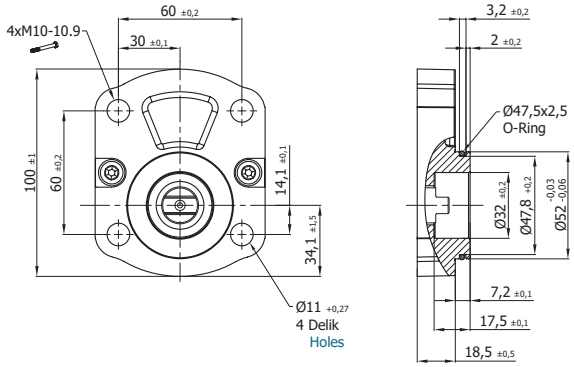
SAE "B" 2 BOLTS K



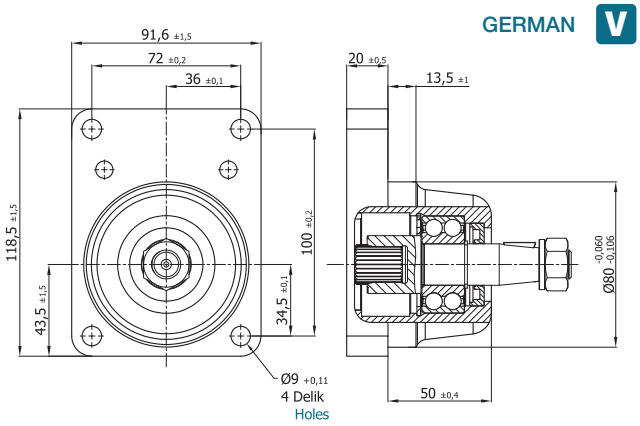
M



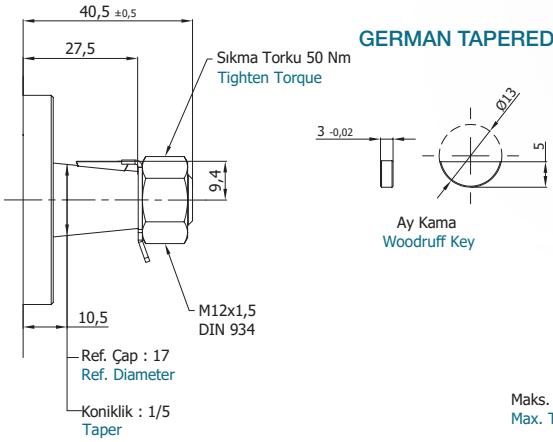
GERMAN 4 BOLTS N



GERMAN V

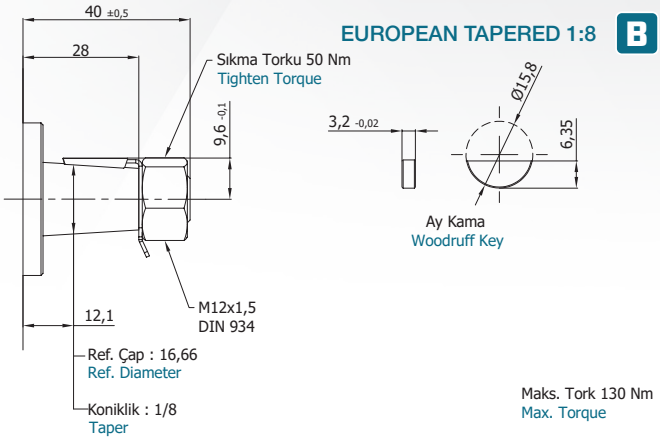


GERMAN TAPERED 1:5 — A



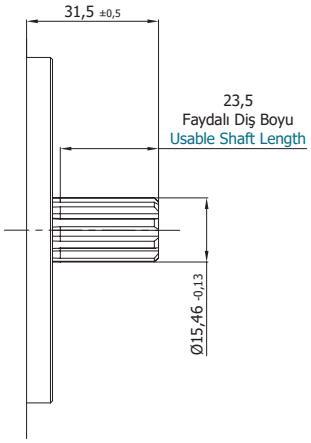
Maks. Tork 110 Nm
Max. Torque

EUROPEAN TAPERED 1:8 — B



Maks. Tork 130 Nm
Max. Torque

SAE ''A'' SPLINE — C

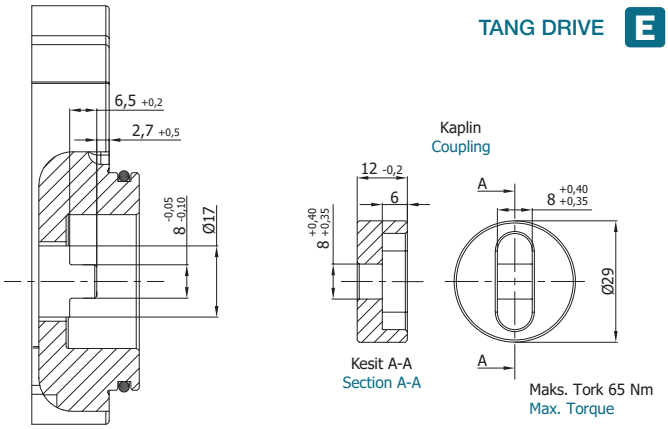


SAE 16-4 (A) 5/8" Spline
Evolvent Spline
Diş Dibi Düz, Yanaktan Alıştırmalı
9 Diş, 16/32 DP

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

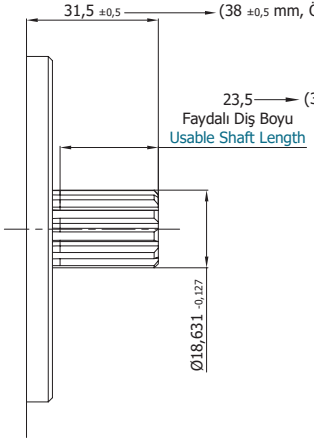
Maks. Tork 110 Nm
Max. Torque

TANG DRIVE — E



Maks. Tork 65 Nm
Max. Torque

SAE SPLINE — F



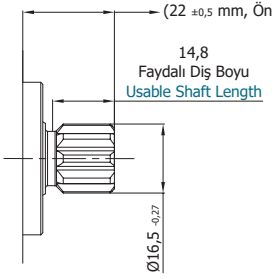
SAE J498 Spline
Evolvent Spline
Diş Dibi Düz, Yanaktan Alıştırmalı
11 Diş, 16/32 DP

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

Maks. Tork 200 Nm
Max. Torque

DIN 5482 SPLINE — G

(26 ±0,5 mm, Ön Kapak/Front Cover "E","B")
(23,5 ±0,5 mm, Ön Kapak/Front Cover "G")
(22 ±0,5 mm, Ön Kapak/Front Cover "A")

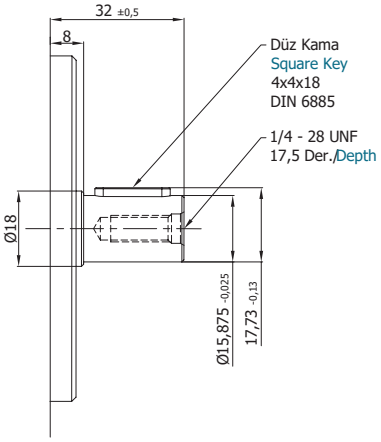


DIN 5482 B17x14 Spline
Evolvent Spline
9 Diş
Diş Kalınlığı : 3,2 -0,03

Involute spline
9 Teeth
Tooth Thickness : 3,2 -0,03

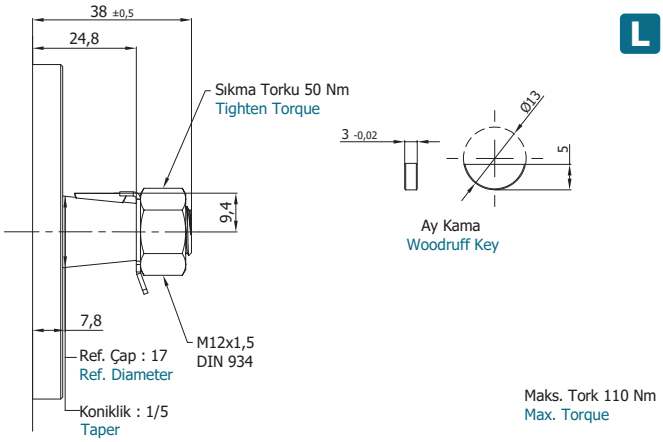
Maks. Tork 115 Nm
Max. Torque

SAE ''A'' STRAIGHT — H



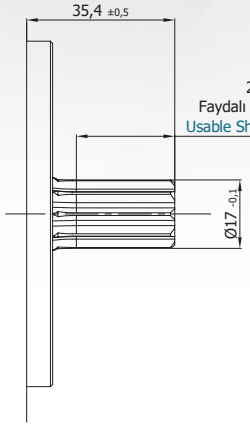
Maks. Tork 55 Nm
Max. Torque

L



Maks. Tork 110 Nm
Max. Torque

SPLINE M

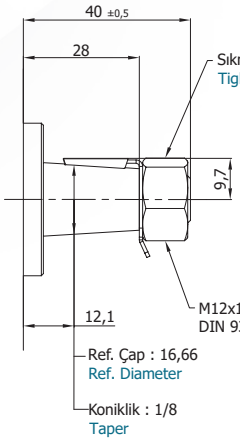


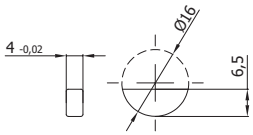
SAE J498 A Spline
Evolvent Spline
Diş Dibi Düz, Yanaktan Alıştırmalı
10 Diş, 16/32 DP

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

Maks. Tork 150 Nm
Max. Torque

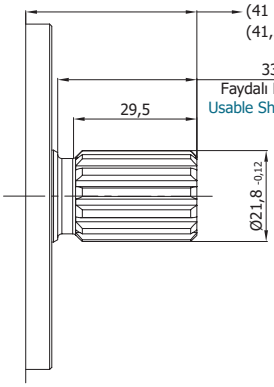
R





Maks. Tork 130 Nm
Max. Torque

SAE ''B'' SPLINE S

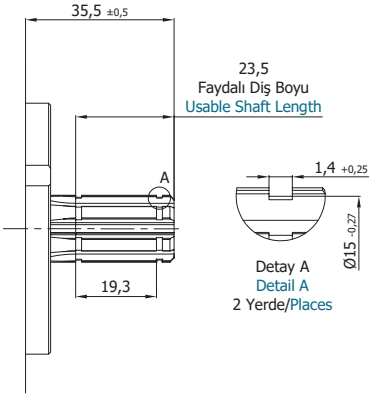


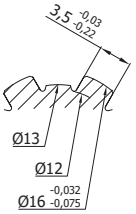
SAE J498 Spline
Evolvent Spline
Diş Dibi Düz, Yanaktan Alıştırmalı
13 Diş, 16/32 DP

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

Maks. Tork 280 Nm
Max. Torque

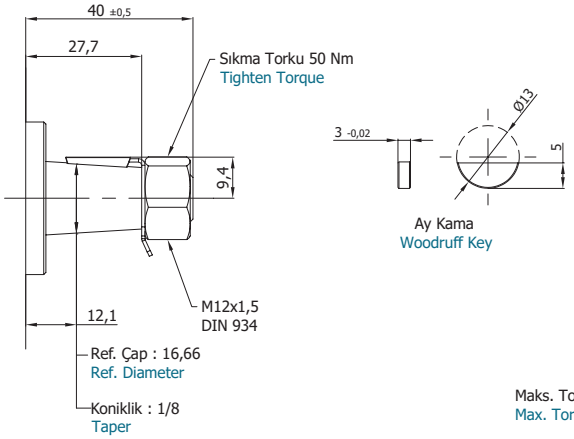
U





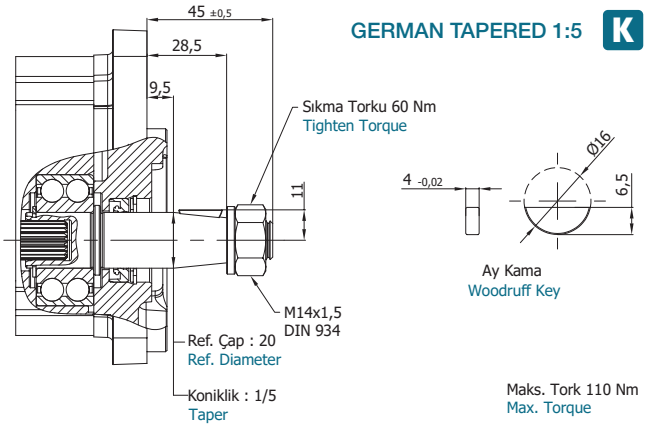
Maks. Tork 110 Nm
Max. Torque

V



Maks. Tork 110 Nm
Max. Torque

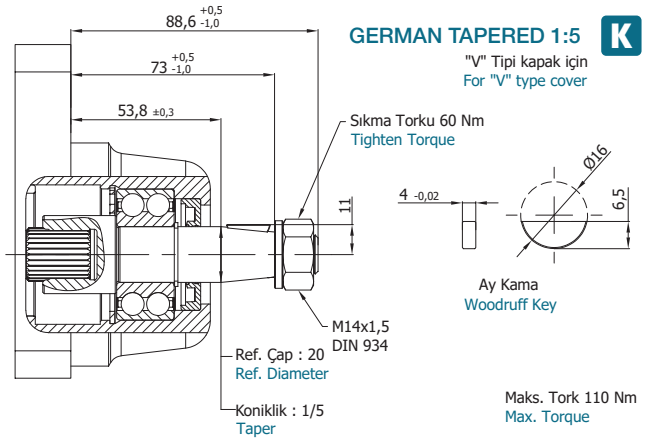
GERMAN TAPERED 1:5 K



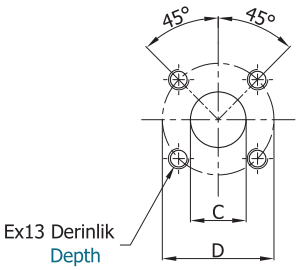
Maks. Tork 110 Nm
Max. Torque

GERMAN TAPERED 1:5 K

"V" Tipi kapak için
For "V" type cover

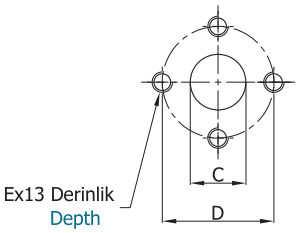


Maks. Tork 110 Nm
Max. Torque



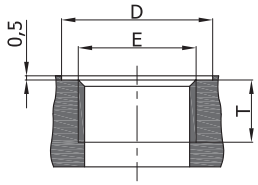
01 Kare Tipi Flanş / Rectangular Flange
German Flanged Ports - 4 Bolts

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	4	12	40	M6	12	35	M6
	6	13,5			13,5		
	8 - 25	20			15		
	28 - 40				20	40	



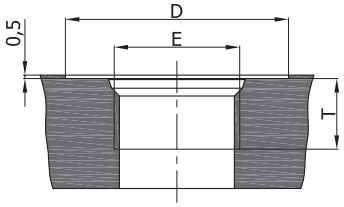
02 Baklava Tipi Flanş / Diamond Flange
European Flanged Ports - 4 Bolts

Sipariş Kodu Ordering Code	İletim Hacmi Displacement cm³/dev (rev)	Emiş Tarafı Suction Side			Basınç Tarafı Pressure Side		
		C	D	E	c	d	e
02	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



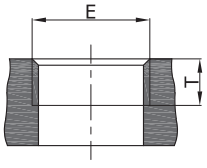
03 Metrik Diş
Metric Thread

Sipariş Kodu Ordering Code	İletim Hacmi Displacement cm³/dev (rev)	Emiş Tarafı Suction Side			Basınç Tarafı Pressure Side		
		T	D	E	t	d	e
03	4 - 6	16	30	M18x1,5	16	30	M18x1,5
	8 - 16	19	40	M27x2	19	35	M22x1,5
	19 - 40	22	45	M33x2			



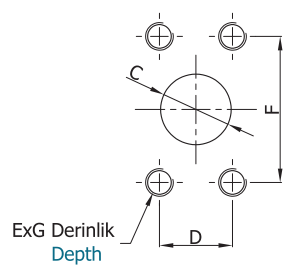
04 Diş / Thread
SAE Straight Thread O-Ring Port J1926-1

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	4 - 6	13	25	9/16''-18 UNF-2B	13	25	9/16''-18 UNF-2B
	8	16	35	7/8"-14 UNF-2B	16	35	7/8"-14 UNF-2B
	9,5 - 28	19	45	1 1/16''-12 UN-2B			
	32 - 40				19	45	1 1/16''-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	4 - 16	16	G 3/4	16	G 1/2
	19 - 40	19	G 1		G 3/4



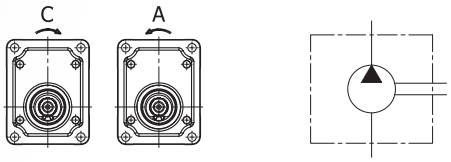
06 SAE Dikdörtgen Flanş Metrik Diş / SAE Flanged Ports J518 - Standard Pressure Series 3000 PSI
SAE Square Flange Metric Thread / Metric thread ISO 60° conforms to ISO / R 262

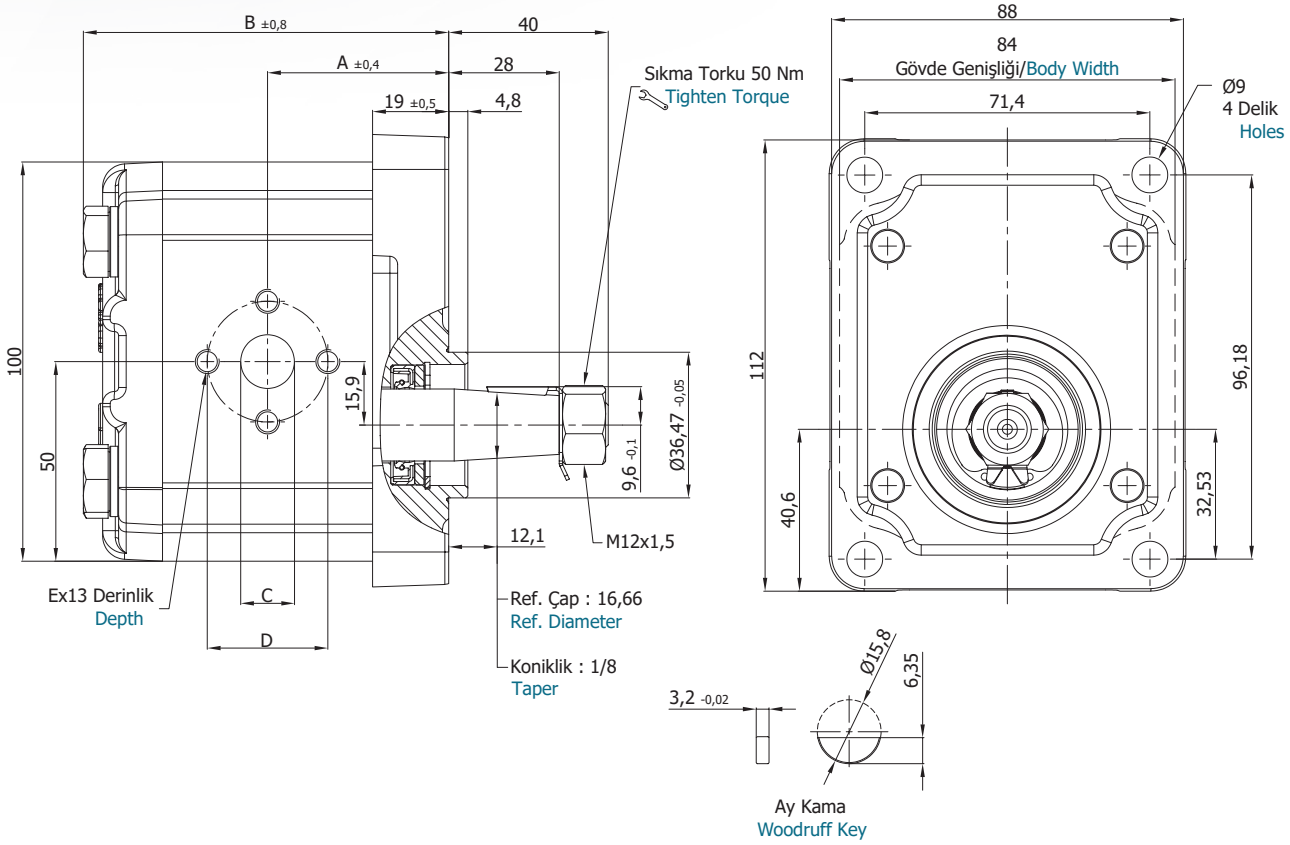
Sipariş Kodu Ordering Code	İletim Hacmi Displacement cm³/dev (rev)	Emiş Tarafı Suction Side				Basınç Tarafı Pressure Side			
		C	D	ExG	F	c	d	exg	f
06	4 - 11,5	12	17,5	M8x13	38,1	12	17,5	M8x13	38,1
	14 - 19	19	47,6	M10x14	22,2		38,1		17,5
	22 - 40	25,4	52,4		26,2	19	47,6	M10x14	22,2

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

A *Ön Kapak* / *Front Cover*

B *Şaft Tipi* / *Shaft Type*



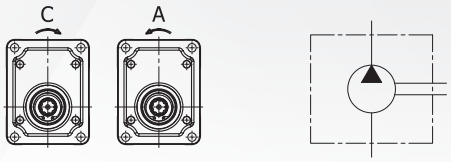


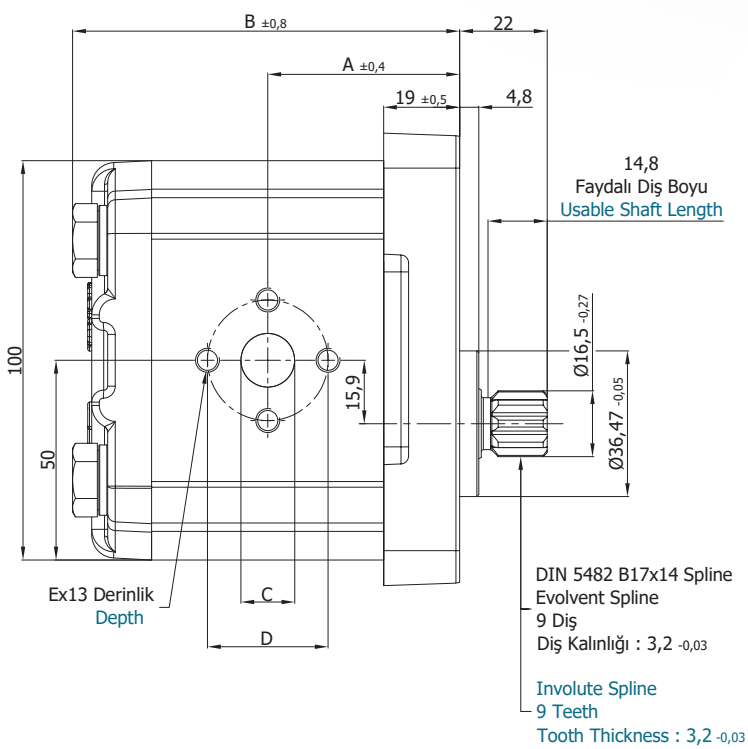
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP20.040.A/CAB02SN	3,9	250	3500	42,2	85,2	12	30,2	M6	12	30,2	M6
AP20.060.A/CAB02SN	5,9			43,8	88,3	13,5			13,5		
AP20.080.A/CAB02SN	8,0			45,3	91,4						
AP20.095.A/CAB02SN	9,4			46,5	93,7	20	40	M8			
AP20.115.A/CAB02SN	11,4		3000	48,0	96,9						
AP20.140.A/CAB02SN	13,9			50,0	100,8						
AP20.160.A/CAB02SN	16,0			51,5	103,9						
AP20.190.A/CAB02SN	19,2			60,0	121,0						
AP20.220.A/CAB02SN	21,9	210	2500	62,3	125,3						
AP20.250.A/CAB02SN	24,8	190		64,8	130,4						
AP20.280.A/CAB02SN	27,9	170	2200	67,0	134,7				20	40	M8
AP20.320.A/CAB02SN	32,0	160	2000	70,0	140,9						
AP20.340.A/CAB02SN	34,0	150		71,5	144,4						
AP20.380.A/CAB02SN	38,0	140	1750	74,8	150,4						
AP20.400.A/CAB02SN	40,0	130		76,5	153,9						

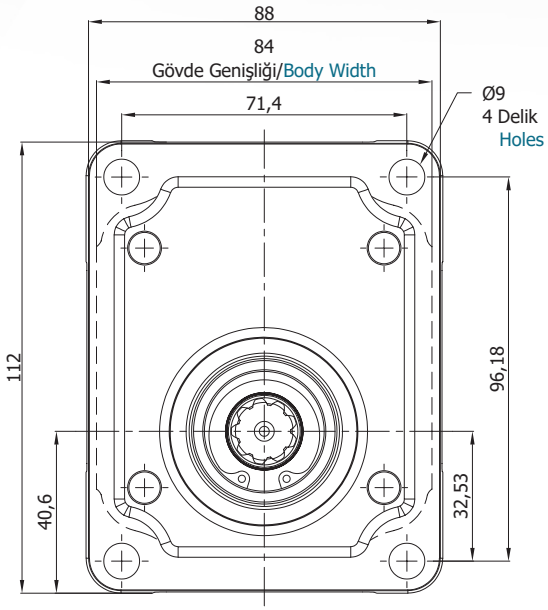
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

A *Ön Kapak* / *Front Cover*

G *Şaft Tipi* / *Shaft Type*

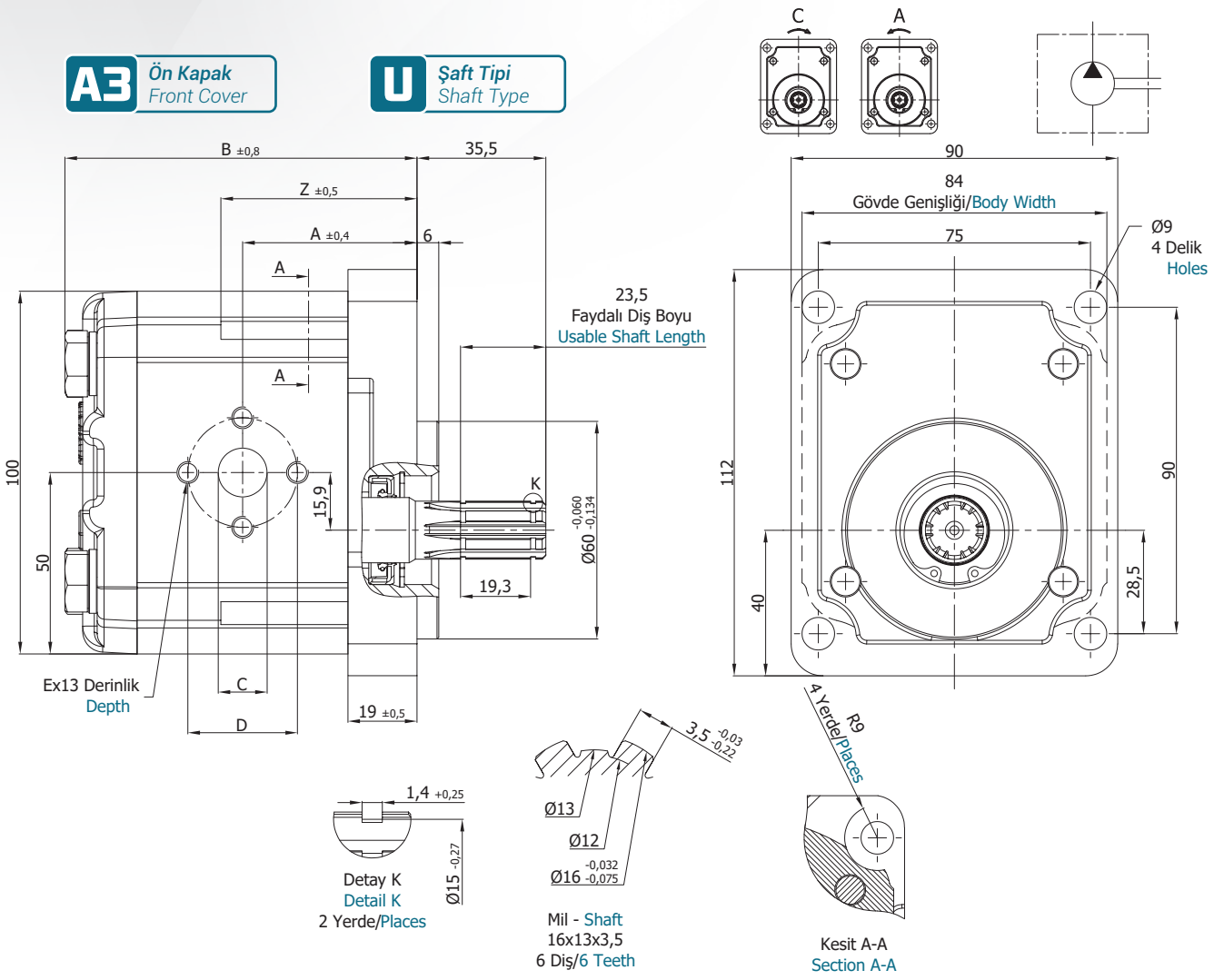






Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP20.040.A/CAG02SN	3,9	250	3500	42,2	85,2	12	30,2	M6	12	30,2	M6
AP20.060.A/CAG02SN	5,9			43,8	88,3	13,5			13,5		
AP20.080.A/CAG02SN	8,0			45,3	91,4						
AP20.095.A/CAG02SN	9,4			46,5	93,7	20	40	M8			
AP20.115.A/CAG02SN	11,4		3000	48,0	96,9						
AP20.140.A/CAG02SN	13,9			50,0	100,8						
AP20.160.A/CAG02SN	16,0			51,5	103,9						
AP20.190.A/CAG02SN	19,2			60,0	121,0						
AP20.220.A/CAG02SN	21,9	210	2500	62,3	125,3						
AP20.250.A/CAG02SN	24,8	190		64,8	130,4						
AP20.280.A/CAG02SN	27,9	170	2200	67,0	134,7				20	40	M8
AP20.320.A/CAG02SN	32,0	160	2000	70,0	140,9						
AP20.340.A/CAG02SN	34,0	150		71,5	144,4						
AP20.380.A/CAG02SN	38,0	140	1750	74,8	150,4						
AP20.400.A/CAG02SN	40,0	130		76,5	153,9						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

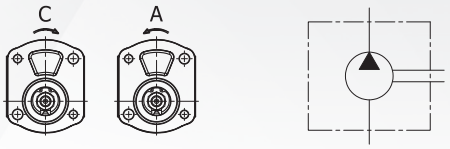


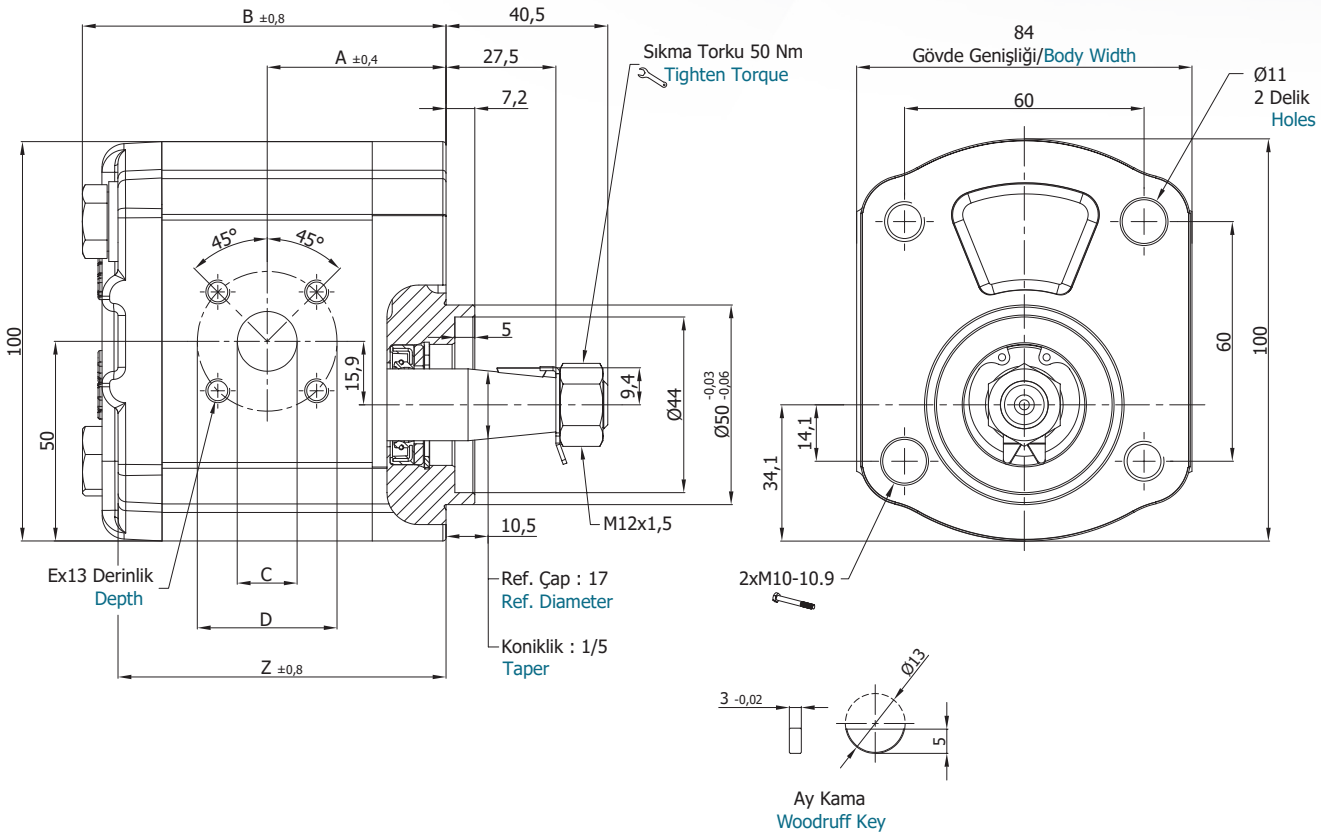
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Z ±0,5	Giriş – Inlet			Çıkış - Outlet		
							C	D	E	c	d	e
AP20.040.A/CA3U02SN	3,9	250	3500	42,2	85,2	54,0	12	30,2	M6	12	30,2	M6
AP20.060.A/CA3U02SN	5,9			43,8	88,3	54,0	13,5			13,5		
AP20.080.A/CA3U02SN	8,0			45,3	91,4	54,0						
AP20.095.A/CA3U02SN	9,4			46,5	93,7	54,0	20	40	M8			
AP20.115.A/CA3U02SN	11,4		3000	48,0	96,9	54,0						
AP20.140.A/CA3U02SN	13,9			50,0	100,8	54,0						
AP20.160.A/CA3U02SN	16,0			51,5	103,9	54,0						
AP20.190.A/CA3U02SN	19,2			60,0	121,0	70,0						
AP20.220.A/CA3U02SN	21,9	210	2500	62,3	125,3	70,0						
AP20.250.A/CA3U02SN	24,8	190		64,8	130,4	70,0						
AP20.280.A/CA3U02SN	27,9	170	2200	67,0	134,7	70,0				20	40	M8
AP20.320.A/CA3U02SN	32,0	160	2000	70,0	140,9	70,0						
AP20.340.A/CA3U02SN	34,0	150		71,5	144,4	70,0						
AP20.380.A/CA3U02SN	38,0	140	1750	74,8	150,4	70,0						
AP20.400.A/CA3U02SN	40,0	130		76,5	153,9	70,0						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

B *Ön Kapak* / *Front Cover*

A *Şaft Tipi* / *Shaft Type*



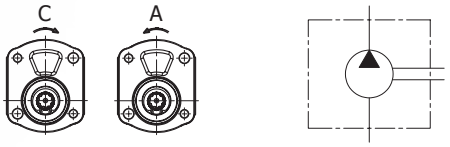


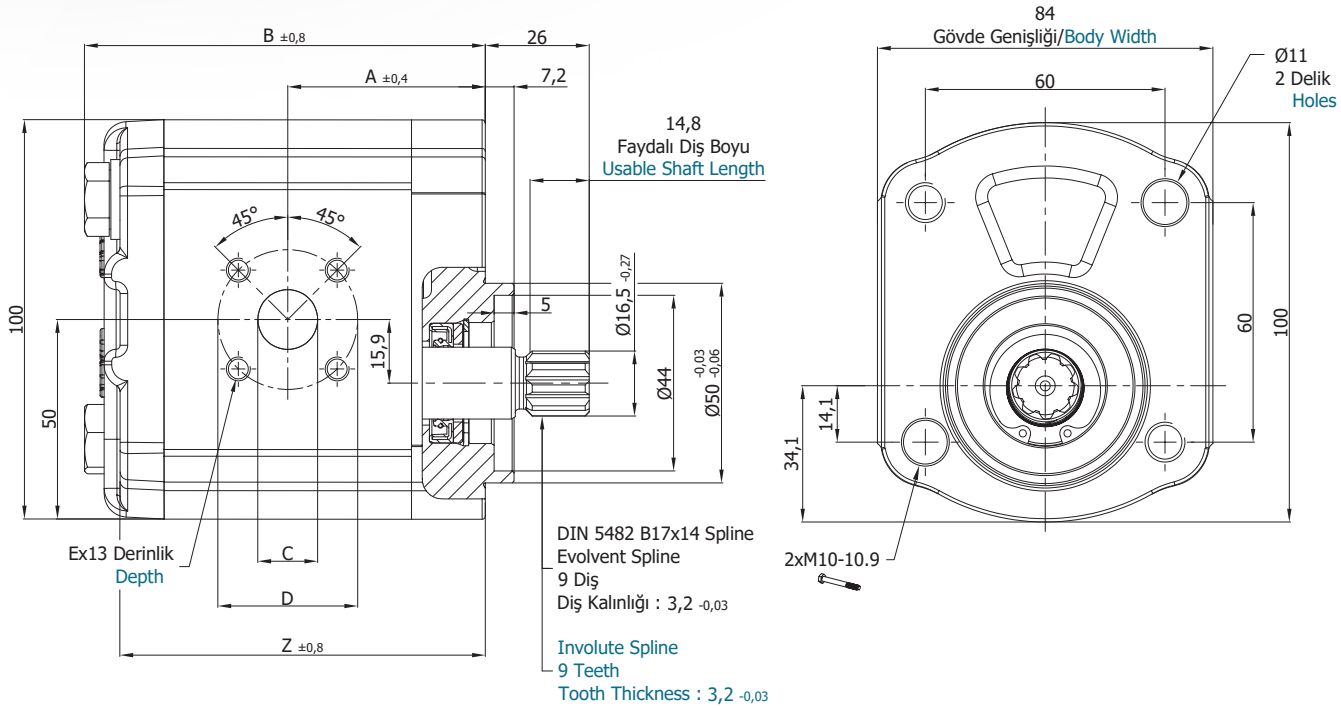
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Z ±0,8	Giriş – Inlet			Çıkış - Outlet		
							C	D	E	c	d	e
AP20.040.A/CBA01SN	3,9	250	3500	41,7	84,7	75,9	12	40	M6	12	35	M6
AP20.060.A/CBA01SN	5,9			43,3	87,8	79,0	13,5			13,5		
AP20.080.A/CBA01SN	8,0			44,8	90,9	82,1	20			15		
AP20.095.A/CBA01SN	9,4			46,0	93,2	84,4						
AP20.115.A/CBA01SN	11,4		3000	47,5	96,4	87,6						
AP20.140.A/CBA01SN	13,9			49,5	100,3	91,5						
AP20.160.A/CBA01SN	16,0			51,0	103,4	94,6						
AP20.190.A/CBA01SN	19,2			59,5	120,5	111,7						
AP20.220.A/CBA01SN	21,9	210	2500	61,8	124,8	116,0						
AP20.250.A/CBA01SN	24,8	190		64,3	129,9	121,1						
AP20.280.A/CBA01SN	27,9	170	2200	66,5	134,2	125,4				20	40	
AP20.320.A/CBA01SN	32,0	160	2000	69,5	140,4	131,6						
AP20.340.A/CBA01SN	34,0	150		71,0	143,9	135,1						
AP20.380.A/CBA01SN	38,0	140	1750	74,3	149,9	141,1						
AP20.400.A/CBA01SN	40,0	130		76,0	153,4	144,6						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

B *Ön Kapak* / *Front Cover*

G *Şaft Tipi* / *Shaft Type*



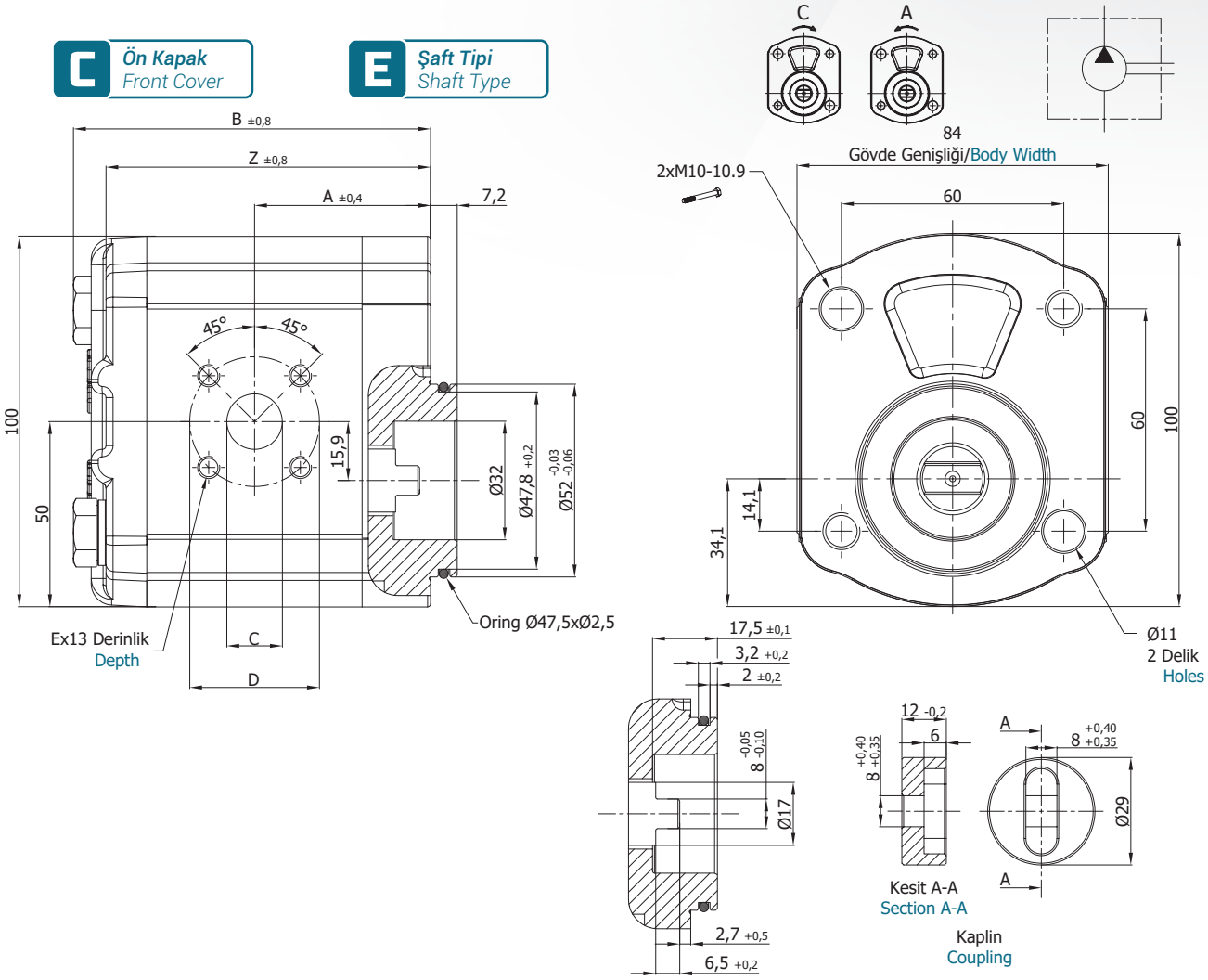


Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Z ±0,8	Giriş – Inlet			Çıkış - Outlet		
							C	D	E	c	d	e
AP20.040.A/CBG01SN	3,9	250	3500	41,7	84,7	75,9	12	40	M6	12	35	M6
AP20.060.A/CBG01SN	5,9			43,3	87,8	79,0	13,5			13,5		
AP20.080.A/CBG01SN	8,0			44,8	90,9	82,1	20			15		
AP20.095.A/CBG01SN	9,4			46,0	93,2	84,4						
AP20.115.A/CBG01SN	11,4		3000	47,5	96,4	87,6						
AP20.140.A/CBG01SN	13,9			49,5	100,3	91,5						
AP20.160.A/CBG01SN	16,0			51,0	103,4	94,6						
AP20.190.A/CBG01SN	19,2			59,5	120,5	111,7						
AP20.220.A/CBG01SN	21,9	210	2500	61,8	124,8	116,0						
AP20.250.A/CBG01SN	24,8	190		64,3	129,9	121,1						
AP20.280.A/CBG01SN	27,9	170	2200	66,5	134,2	125,4				20	40	
AP20.320.A/CBG01SN	32,0	160	2000	69,5	140,4	131,6						
AP20.340.A/CBG01SN	34,0	150		71,0	143,9	135,1						
AP20.380.A/CBG01SN	38,0	140	1750	74,3	149,9	141,1						
AP20.400.A/CBG01SN	40,0	130		76,0	153,4	144,6						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

C Ön Kapak / Front Cover

E Şaft Tipi / Shaft Type

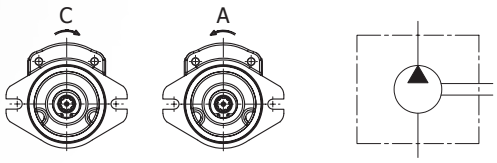


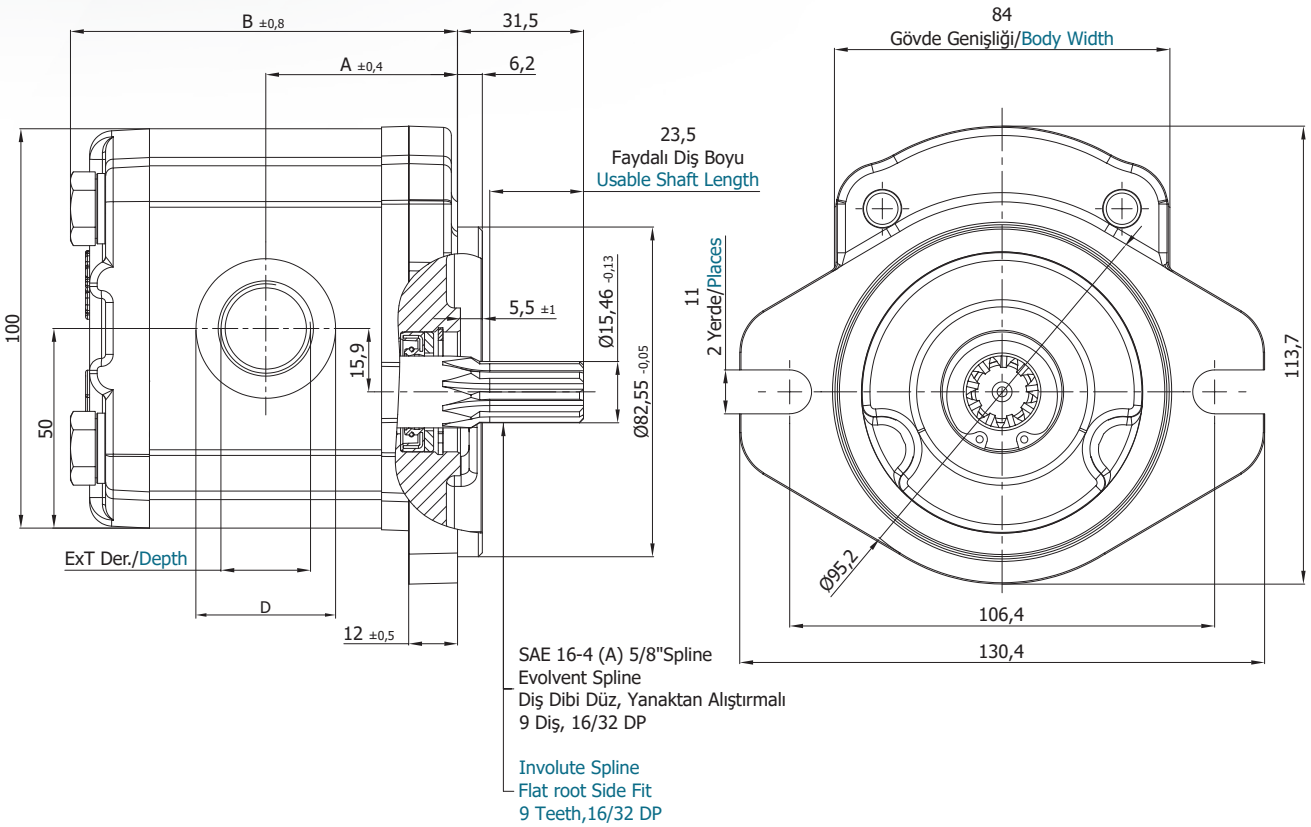
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Z ±0,8	Giriş – Inlet			Çıkış - Outlet		
							C	D	E	c	d	e
AP20.040.A/CCE01SN	3,9	250	3500	41,7	84,7	75,9	12	40	M6	12	35	M6
AP20.060.A/CCE01SN	5,9			43,3	87,8	79,0	13,5			13,5		
AP20.080.A/CCE01SN	8,0			44,8	90,9	82,1	20			15		
AP20.095.A/CCE01SN	9,4			46,0	93,2	84,4						
AP20.115.A/CCE01SN	11,4		3000	47,5	96,4	87,6						
AP20.140.A/CCE01SN	13,9			49,5	100,3	91,5						
AP20.160.A/CCE01SN	16,0			51,0	103,4	94,6						
AP20.190.A/CCE01SN	19,2			59,5	120,5	111,7						
AP20.220.A/CCE01SN	21,9	210	2500	61,8	124,8	116,0						
AP20.250.A/CCE01SN	24,8	190		64,3	129,9	121,1						
AP20.280.A/CCE01SN	27,9	170	2200	66,5	134,2	125,4				20	40	
AP20.320.A/CCE01SN	32,0	160	2000	69,5	140,4	131,6						
AP20.340.A/CCE01SN	34,0	150		71,0	143,9	135,1						
AP20.380.A/CCE01SN	38,0	140	1750	74,3	149,9	141,1						
AP20.400.A/CCE01SN	40,0	130		76,0	153,4	144,6						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

D *Ön Kapak* / *Front Cover*

C *Şaft Tipi* / *Shaft Type*



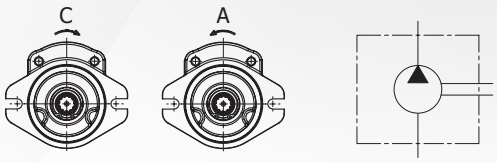


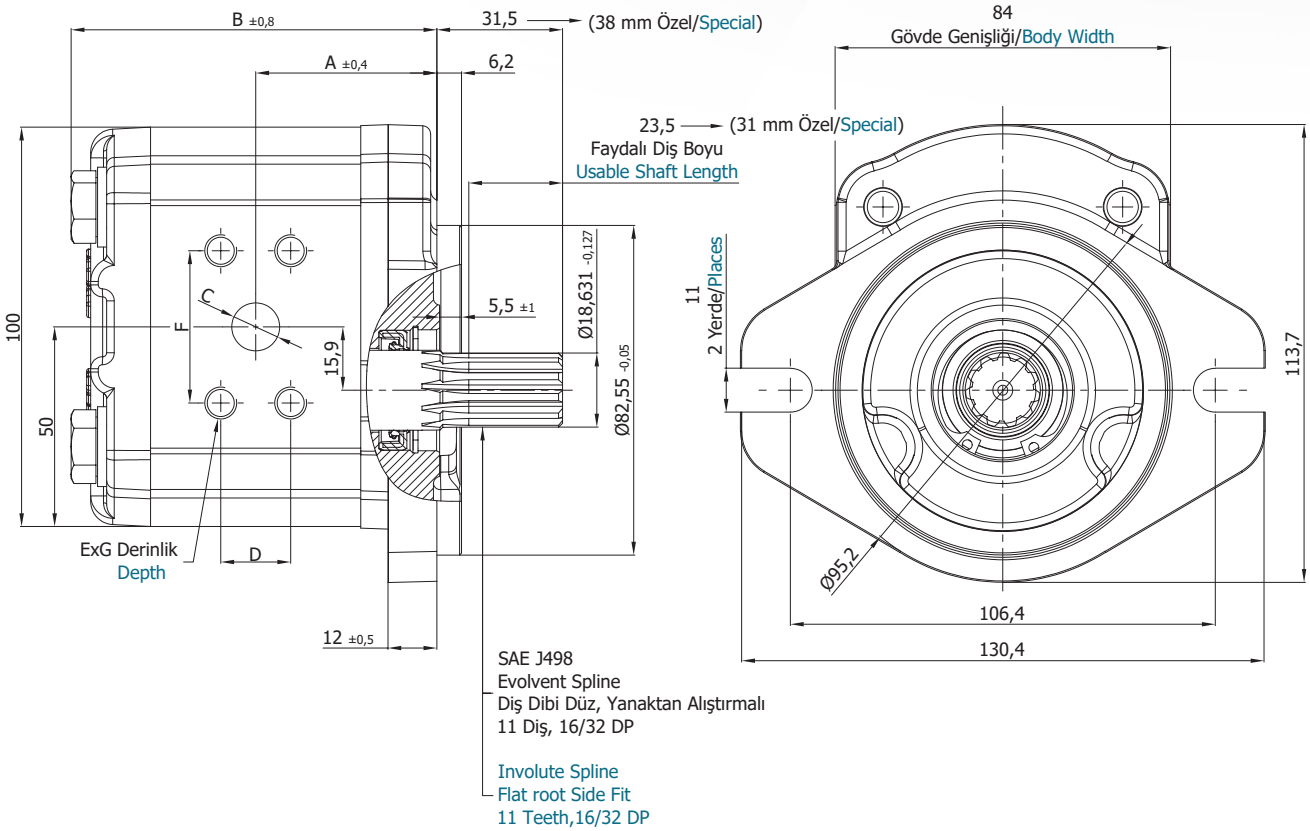
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						E	T	D	e	t	d
AP20.040.A/CDC04SN	3,9	250	3500	42,2	85,2	9/16"-18 UN-2B	13	25	9/16"-18 UN-2B	13	25
AP20.060.A/CDC04SN	5,9			43,8	88,3						
AP20.080.A/CDC04SN	8,0			45,3	91,4	7/8"-14 UN-2B	16	35	7/8"-14 UN-2B	16	35
AP20.095.A/CDC04SN	9,4			46,5	93,7	1 1/16"-12 UN-2B	19	45			
AP20.115.A/CDC04SN	11,4		3000	48,0	96,9						
AP20.140.A/CDC04SN	13,9			50,0	100,8						
AP20.160.A/CDC04SN	16,0			51,5	103,9						
AP20.190.A/CDC04SN	19,2			60,0	121,0						
AP20.220.A/CDC04SN	21,9	210	2500	62,3	125,3						
AP20.250.A/CDC04SN	24,8	190		64,8	130,4						
AP20.280.A/CDC04SN	27,9	170	2200	67,0	134,7						
AP20.320.A/CDC04SN	32,0	160	2000	70,0	140,9				1 1/16"-12 UN-2B	19	45
AP20.340.A/CDC04SN	34,0	150		71,5	144,4						
AP20.380.A/CDC04SN	38,0	140	1750	74,8	150,4						
AP20.400.A/CDC04SN	40,0	130		76,5	153,9						

* Değerler "4 - 28 cc" aralığında APH20 için de geçerlidir. Values also apply for APH20 in the "4 - 28 cc" range.

D *Ön Kapak* / *Front Cover*

F *Şaft Tipi* / *Shaft Type*



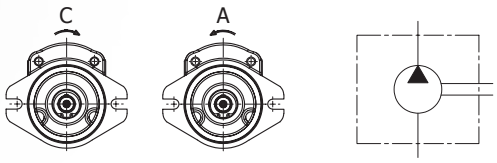


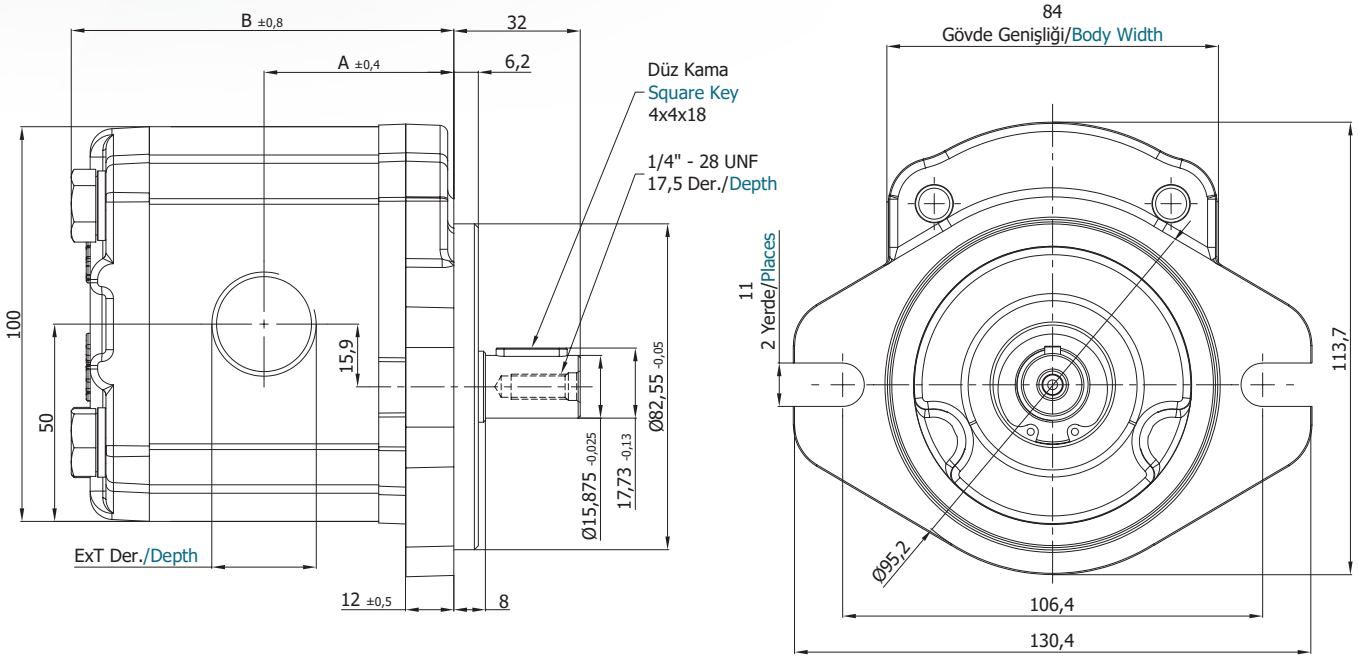
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet				Çıkış - Outlet			
						C	D	ExG	F	c	d	exg	f
AP20.040.A/CDF06SN	3,9	250	3500	42,2	85,2	12	17,5	M8x13	38,1	12	17,5	M8x13	38,1
AP20.060.A/CDF06SN	5,9			43,8	88,3								
AP20.080.A/CDF06SN	8,0			45,3	91,4								
AP20.095.A/CDF06SN	9,4			46,5	93,7								
AP20.115.A/CDF06SN	11,4		3000	48,0	96,9								
AP20.140.A/CDF06SN	13,9			50,0	100,8	19	47,6	M10x14	22,2		38,1		17,5
AP20.160.A/CDF06SN	16,0			51,5	103,9								
AP20.190.A/CDF06SN	19,2			60,0	121,0								
AP20.220.A/CDF06SN	21,9	210	2500	62,3	125,3	25,4	52,4		26,2	19	47,6	M10x14	22,2
AP20.250.A/CDF06SN	24,8	190		64,8	130,4								
AP20.280.A/CDF06SN	27,9	170	2200	67,0	134,7								
AP20.320.A/CDF06SN	32,0	160	2000	70,0	140,9								
AP20.340.A/CDF06SN	34,0	150		71,5	144,4								
AP20.380.A/CDF06SN	38,0	140	1750	74,8	150,4								
AP20.400.A/CDF06SN	40,0	130		76,5	153,9								

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

D *Ön Kapak* / *Front Cover*

H *Şaft Tipi* / *Shaft Type*



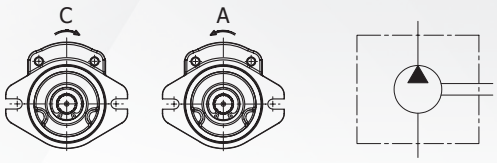


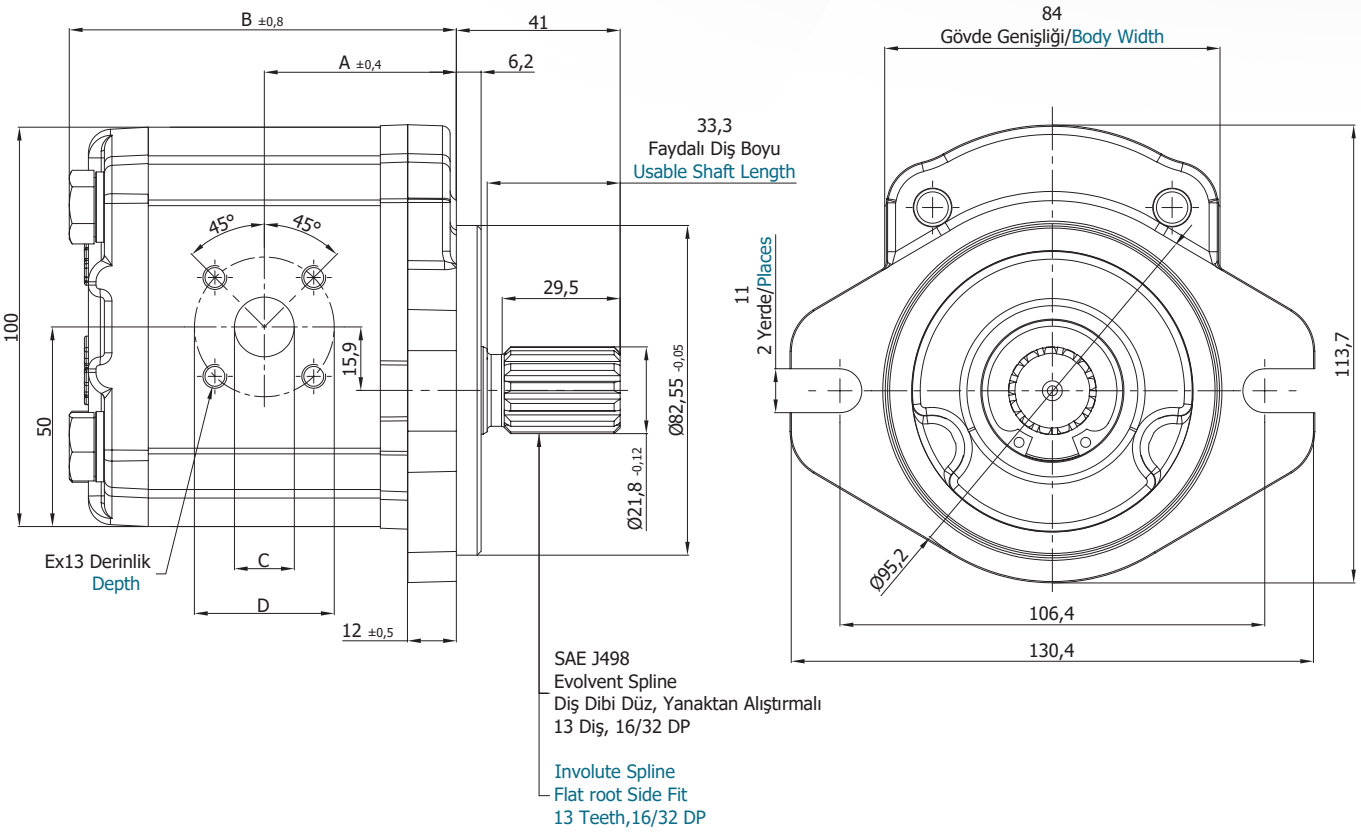
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet		Çıkış - Outlet	
						E	T	e	t
AP20.040.A/CDH05SN	3,9	250	3500	42,2	85,2	G 3/4	16	G 1/2	16
AP20.060.A/CDH05SN	5,9			43,8	88,3				
AP20.080.A/CDH05SN	8,0			45,3	91,4				
AP20.095.A/CDH05SN	9,4			46,5	93,7				
AP20.115.A/CDH05SN	11,4		3000	48,0	96,9				
AP20.140.A/CDH05SN	13,9			50,0	100,8				
AP20.160.A/CDH05SN	16,0			51,5	103,9				
AP20.190.A/CDH05SN	19,2			60,0	121,0	G 1	19	G 3/4	
AP20.220.A/CDH05SN	21,9	210	2500	62,3	125,3				
AP20.250.A/CDH05SN	24,8	190		64,8	130,4				
AP20.280.A/CDH05SN	27,9	170	2200	67,0	134,7				
AP20.320.A/CDH05SN	32,0	160	2000	70,0	140,9				
AP20.340.A/CDH05SN	34,0	150		71,5	144,4				
AP20.380.A/CDH05SN	38,0	140	1750	74,8	150,4				
AP20.400.A/CDH05SN	40,0	130		76,5	153,9				

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

D *Ön Kapak* / *Front Cover*

S *Şaft Tipi* / *Shaft Type*



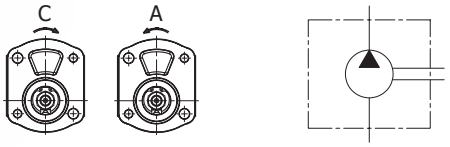


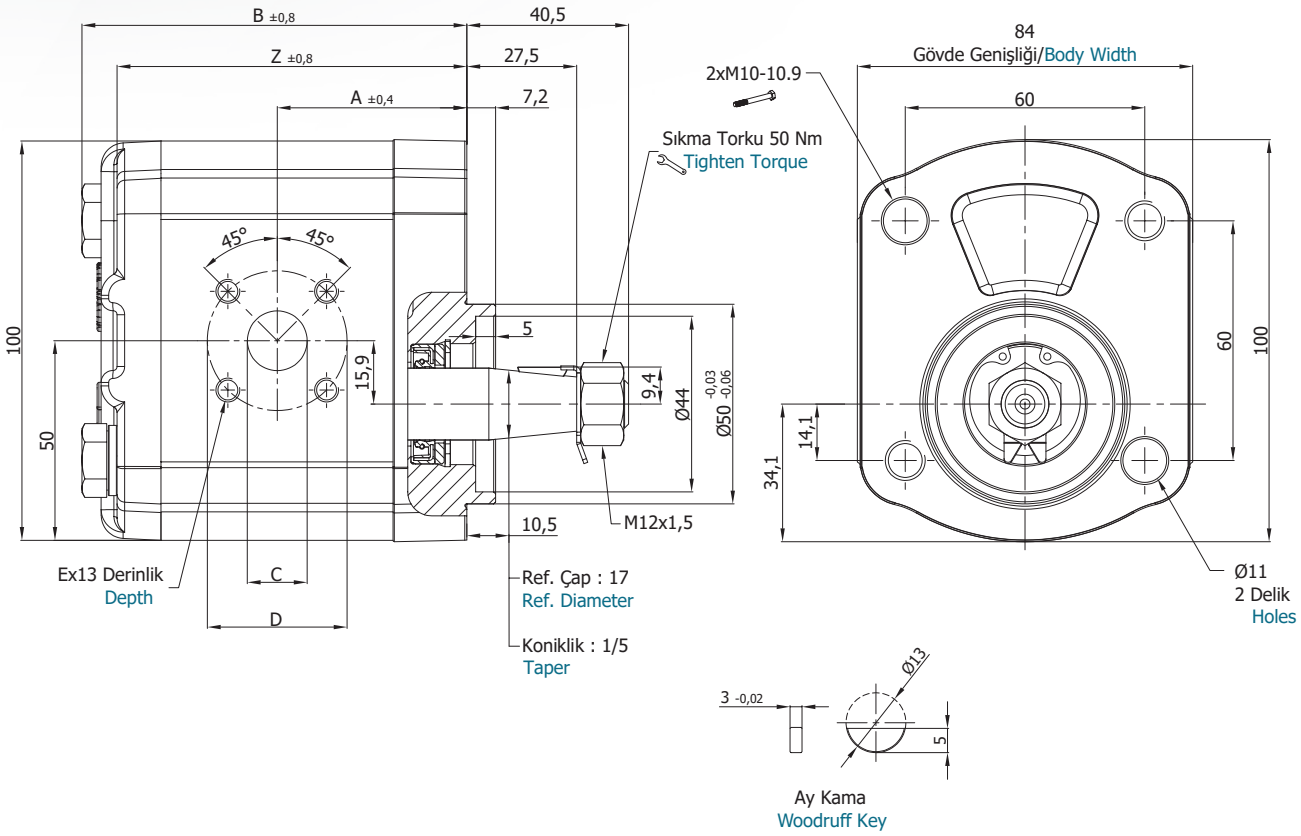
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP20.040.A/CDS01SN	3,9	250	3500	42,2	85,2	12	40	M6	12	35	M6
AP20.060.A/CDS01SN	5,9			43,8	88,3	13,5			13,5		
AP20.080.A/CDS01SN	8,0			45,3	91,4	20			15		
AP20.095.A/CDS01SN	9,4			46,5	93,7						
AP20.115.A/CDS01SN	11,4		3000	48,0	96,9						
AP20.140.A/CDS01SN	13,9			50,0	100,8						
AP20.160.A/CDS01SN	16,0			51,5	103,9						
AP20.190.A/CDS01SN	19,2			60,0	121,0						
AP20.220.A/CDS01SN	21,9	210	2500	62,3	125,3						
AP20.250.A/CDS01SN	24,8	190		64,8	130,4						
AP20.280.A/CDS01SN	27,9	170	2200	67,0	134,7				20	40	
AP20.320.A/CDS01SN	32,0	160	2000	70,0	140,9						
AP20.340.A/CDS01SN	34,0	150		71,5	144,4						
AP20.380.A/CDS01SN	38,0	140	1750	74,8	150,4						
AP20.400.A/CDS01SN	40,0	130		76,5	153,9						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

E *Ön Kapak* / *Front Cover*

A *Şaft Tipi* / *Shaft Type*



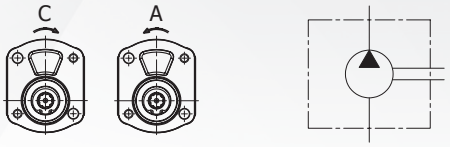


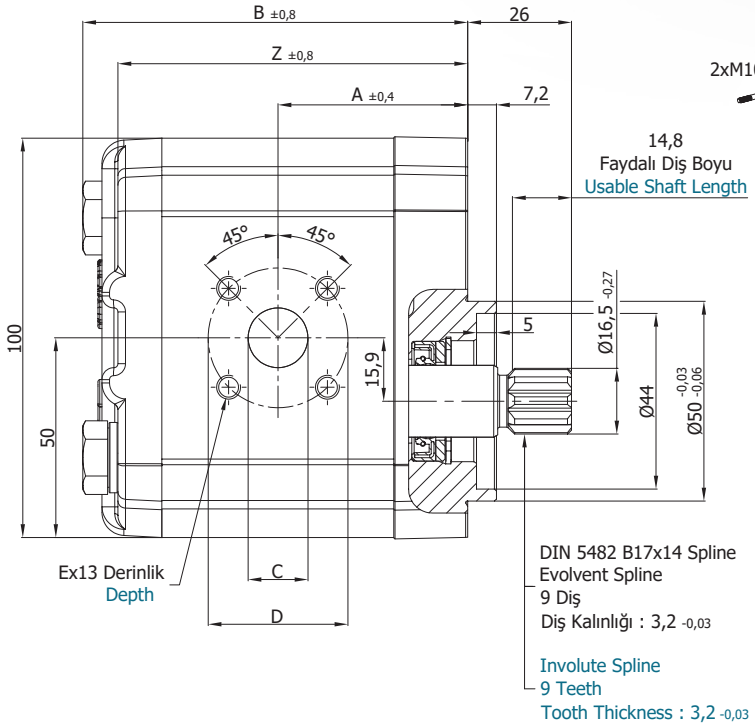
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Z ±0,8	Giriş – Inlet			Çıkış - Outlet		
							C	D	E	c	d	e
AP20.040.A/CEA01SN	3,9	250	3500	41,7	84,7	75,9	12	40	M6	12	35	M6
AP20.060.A/CEA01SN	5,9			43,3	87,8	79,0	13,5			13,5		
AP20.080.A/CEA01SN	8,0			44,8	90,9	82,1	20			15		
AP20.095.A/CEA01SN	9,4			46,0	93,2	84,4						
AP20.115.A/CEA01SN	11,4		3000	47,5	96,4	87,6						
AP20.140.A/CEA01SN	13,9			49,5	100,3	91,5						
AP20.160.A/CEA01SN	16,0			51,0	103,4	94,6						
AP20.190.A/CEA01SN	19,2			59,5	120,5	111,7						
AP20.220.A/CEA01SN	21,9	210	2500	61,8	124,8	116,0						
AP20.250.A/CEA01SN	24,8	190		64,3	129,9	121,1						
AP20.280.A/CEA01SN	27,9	170	2200	66,5	134,2	125,4				20	40	
AP20.320.A/CEA01SN	32,0	160	2000	69,5	140,4	131,6						
AP20.340.A/CEA01SN	34,0	150		71,0	143,9	135,1						
AP20.380.A/CEA01SN	38,0	140	1750	74,3	149,9	141,1						
AP20.400.A/CEA01SN	40,0	130		76,0	153,4	144,6						

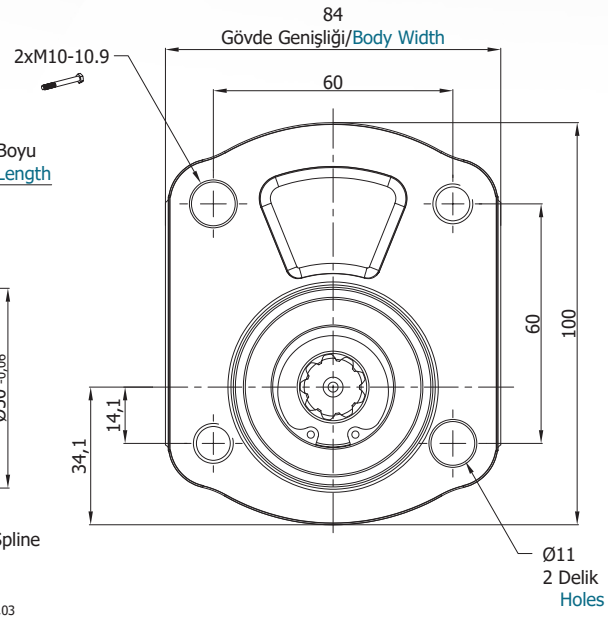
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

E *Ön Kapak* / *Front Cover*

G *Şaft Tipi* / *Shaft Type*





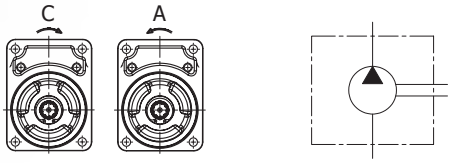


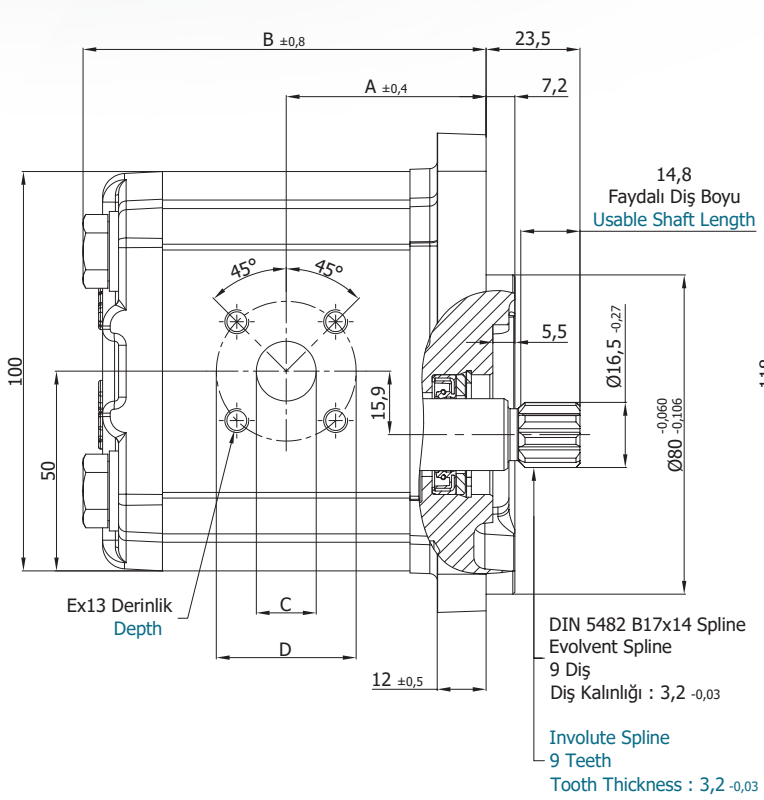
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Z ±0,8	Giriş – Inlet			Çıkış - Outlet		
							C	D	E	c	d	e
AP20.040.A/CEG01SN	3,9	250	3500	41,7	84,7	75,9	12	40	M6	12	35	M6
AP20.060.A/CEG01SN	5,9			43,3	87,8	79,0	13,5			13,5		
AP20.080.A/CEG01SN	8,0			44,8	90,9	82,1	20			15		
AP20.095.A/CEG01SN	9,4			46,0	93,2	84,4						
AP20.115.A/CEG01SN	11,4		3000	47,5	96,4	87,6						
AP20.140.A/CEG01SN	13,9			49,5	100,3	91,5						
AP20.160.A/CEG01SN	16,0			51,0	103,4	94,6						
AP20.190.A/CEG01SN	19,2			59,5	120,5	111,7						
AP20.220.A/CEG01SN	21,9	210	2500	61,8	124,8	116,0						
AP20.250.A/CEG01SN	24,8	190		64,3	129,9	121,1						
AP20.280.A/CEG01SN	27,9	170	2200	66,5	134,2	125,4				20	40	
AP20.320.A/CEG01SN	32,0	160	2000	69,5	140,4	131,6						
AP20.340.A/CEG01SN	34,0	150		71,0	143,9	135,1						
AP20.380.A/CEG01SN	38,0	140	1750	74,3	149,9	141,1						
AP20.400.A/CEG01SN	40,0	130		76,0	153,4	144,6						

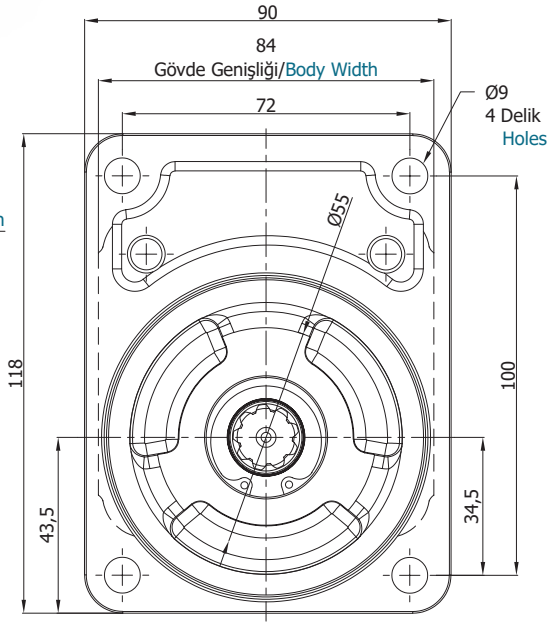
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

G *Ön Kapak* *Front Cover*

G *Şaft Tipi* *Shaft Type*





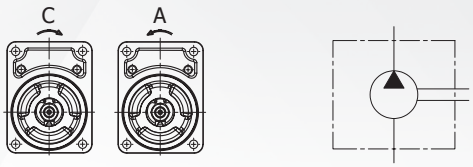


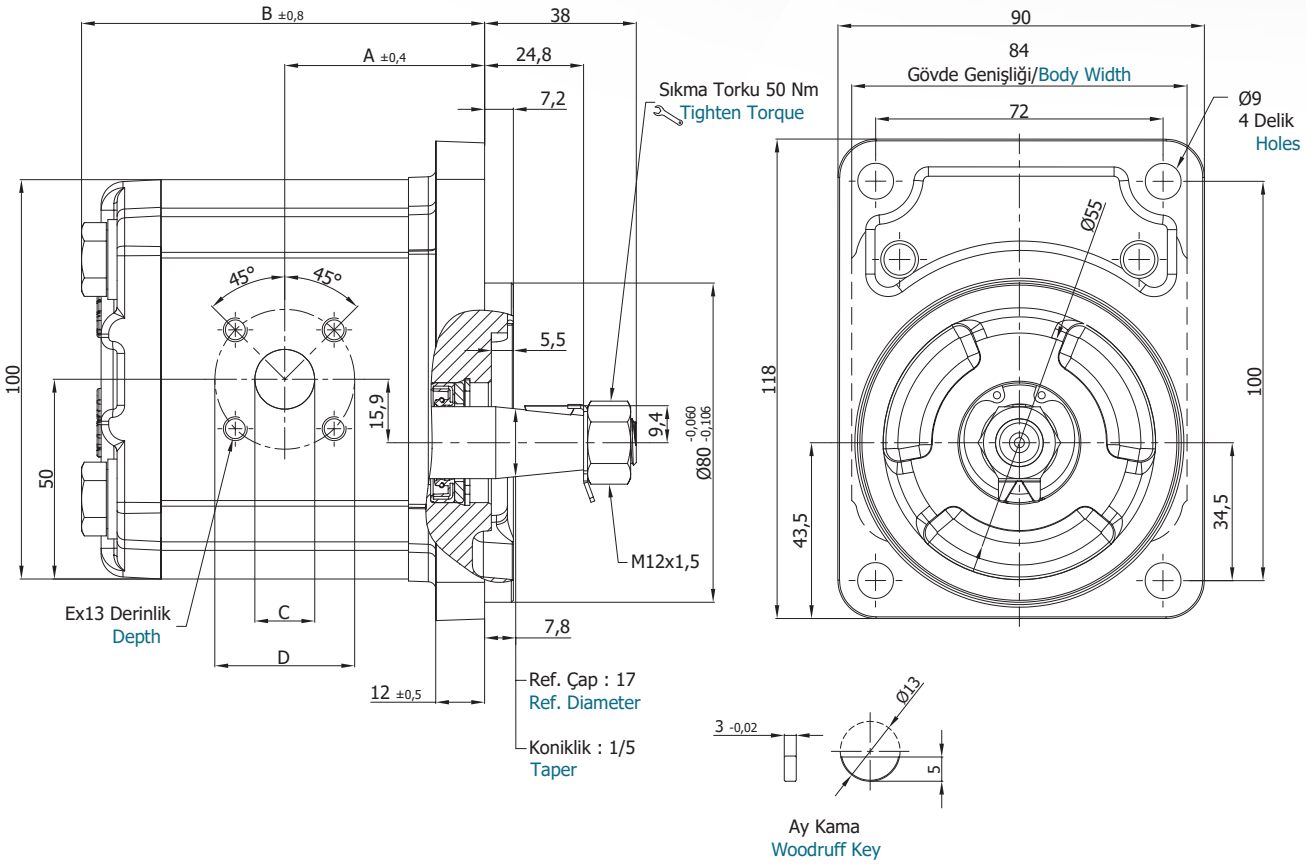
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP20.040.A/CGG01SN	3,9	250	3500	42,2	85,2	20	40	M6	12	35	M6
AP20.060.A/CGG01SN	5,9			43,8	88,3	13,5			13,5		
AP20.080.A/CGG01SN	8,0			45,3	91,4				15		
AP20.095.A/CGG01SN	9,4			46,5	93,7						
AP20.115.A/CGG01SN	11,4		3000	48,0	96,9						
AP20.140.A/CGG01SN	13,9			50,0	100,8						
AP20.160.A/CGG01SN	16,0			51,5	103,9						
AP20.190.A/CGG01SN	19,2			60,0	121,0						
AP20.220.A/CGG01SN	21,9	210	2500	62,3	125,3						
AP20.250.A/CGG01SN	24,8	190		64,8	130,4						
AP20.280.A/CGG01SN	27,9	170	2200	67,0	134,7				20	40	
AP20.320.A/CGG01SN	32,0	160	2000	70,0	140,9						
AP20.340.A/CGG01SN	34,0	150		71,5	144,4						
AP20.380.A/CGG01SN	38,0	140	1750	74,8	150,4						
AP20.400.A/CGG01SN	40,0	130		76,5	153,9						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

G Ön Kapak / *Front Cover*

L Şaft Tipi / *Shaft Type*



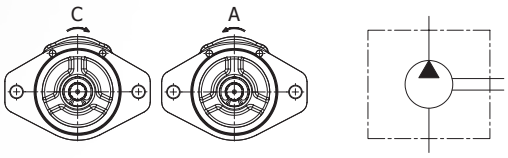


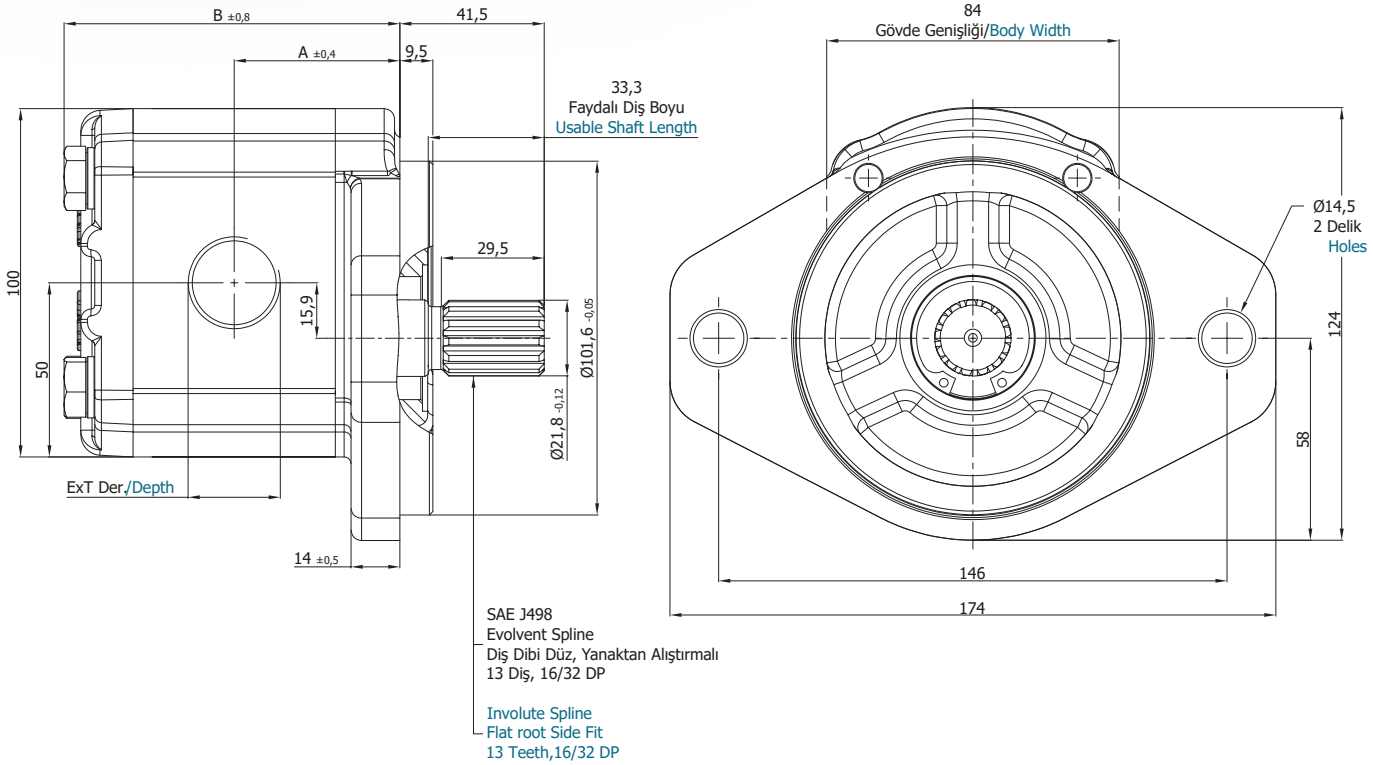
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP20.040.A/CGL01SN	3,9	250	3500	42,2	85,2	20	40	M6	12	35	M6
AP20.060.A/CGL01SN	5,9			43,8	88,3				13,5		
AP20.080.A/CGL01SN	8,0			45,3	91,4				15		
AP20.095.A/CGL01SN	9,4			46,5	93,7						
AP20.115.A/CGL01SN	11,4		3000	48,0	96,9						
AP20.140.A/CGL01SN	13,9			50,0	100,8						
AP20.160.A/CGL01SN	16,0			51,5	103,9						
AP20.190.A/CGL01SN	19,2			60,0	121,0						
AP20.220.A/CGL01SN	21,9	210	2500	62,3	125,3						
AP20.250.A/CGL01SN	24,8	190		64,8	130,4						
AP20.280.A/CGL01SN	27,9	170	2200	67,0	134,7				20	40	
AP20.320.A/CGL01SN	32,0	160	2000	70,0	140,9						
AP20.340.A/CGL01SN	34,0	150		71,5	144,4						
AP20.380.A/CGL01SN	38,0	140	1750	74,8	150,4						
AP20.400.A/CGL01SN	40,0	130		76,5	153,9						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

K *Ön Kapak* *Front Cover*

S *Şaft Tipi* *Shaft Type*



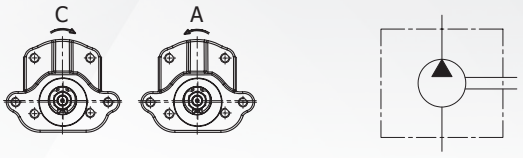


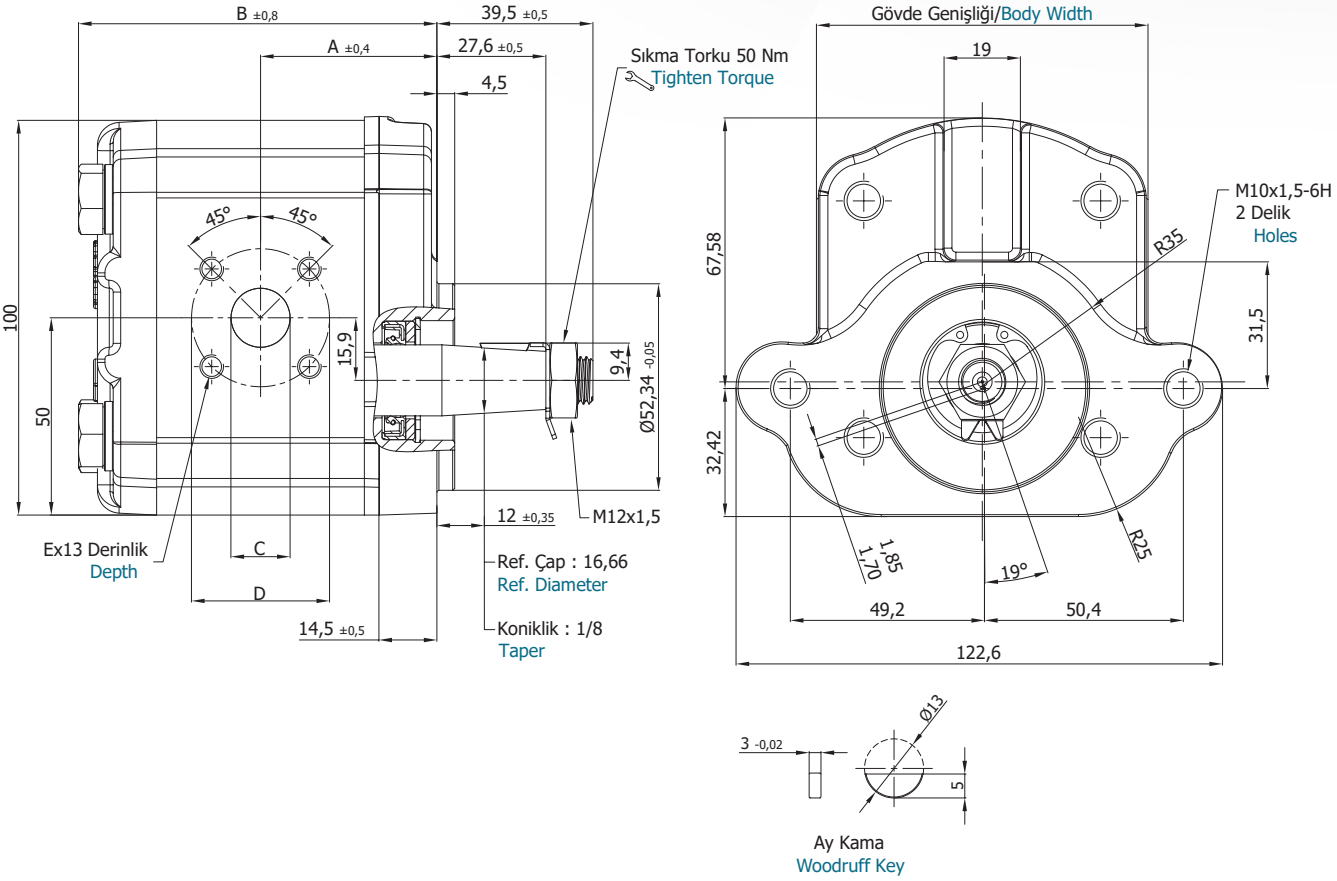
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet		Çıkış - Outlet	
						E	T	e	t
AP20.040.A/CKS05SN	3,9	250	3500	41,7	84,7	G 3/4	16	G 1/2	16
AP20.060.A/CKS05SN	5,9			43,3	87,8				
AP20.080.A/CKS05SN	8,0			44,8	90,9				
AP20.095.A/CKS05SN	9,4			46,0	93,2				
AP20.115.A/CKS05SN	11,4		3000	47,5	96,4				
AP20.140.A/CKS05SN	13,9			49,5	100,3				
AP20.160.A/CKS05SN	16,0			51,0	103,4				
AP20.190.A/CKS05SN	19,2			59,5	120,5	G 1	19	G 3/4	
AP20.220.A/CKS05SN	21,9	210	2500	61,8	124,8				
AP20.250.A/CKS05SN	24,8	190		64,3	129,9				
AP20.280.A/CKS05SN	27,9	170	2200	66,5	134,2				
AP20.320.A/CKS05SN	32,0	160	2000	69,5	140,4				
AP20.340.A/CKS05SN	34,0	150		71,0	143,9				
AP20.380.A/CKS05SN	38,0	140	1750	74,3	149,9				
AP20.400.A/CKS05SN	40,0	130		76,0	153,4				

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

M Ön Kapak / *Front Cover*

N Şaft Tipi / *Shaft Type*





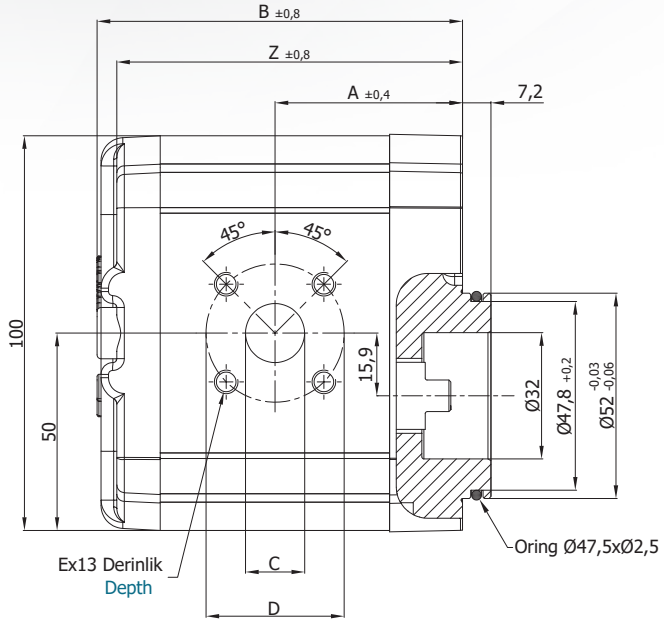
Ay Kama
Woodruff Key

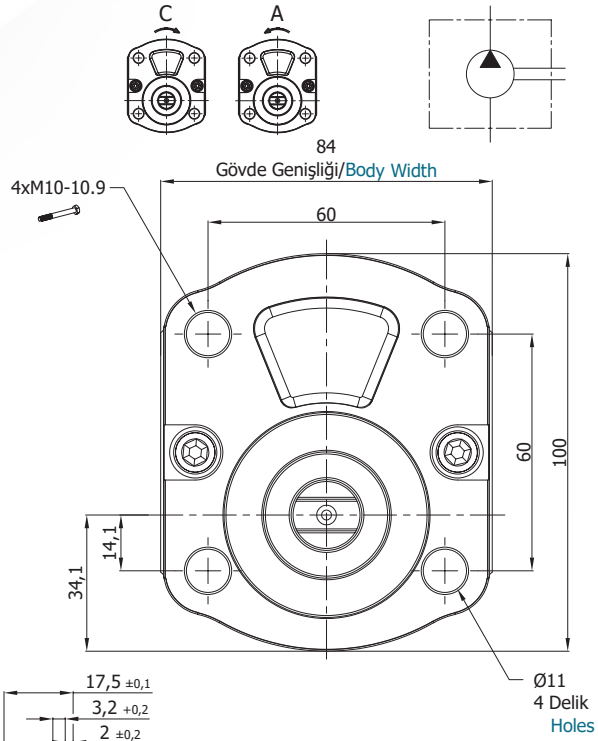
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP20.040.A/CMN01SN	3,9	250	3500	41,6	84,6	12	40	M6	12	35	M6
AP20.060.A/CMN01SN	5,9			43,2	87,7	13,5			13,5		
AP20.080.A/CMN01SN	8,0			44,7	90,8	20			15		
AP20.095.A/CMN01SN	9,4			45,9	93,1						
AP20.115.A/CMN01SN	11,4		3000	47,4	96,3						
AP20.140.A/CMN01SN	13,9			49,4	100,2						
AP20.160.A/CMN01SN	16,0			50,9	103,3						
AP20.190.A/CMN01SN	19,2			59,4	120,4						
AP20.220.A/CMN01SN	21,9	210	2500	61,7	124,7						
AP20.250.A/CMN01SN	24,8	190		64,2	129,8						
AP20.280.A/CMN01SN	27,9	170	2200	66,4	134,1				20	40	
AP20.320.A/CMN01SN	32,0	160	2000	69,4	140,3						
AP20.340.A/CMN01SN	34,0	150		70,9	143,8						
AP20.380.A/CMN01SN	38,0	140	1750	74,2	149,8						
AP20.400.A/CMN01SN	40,0	130		75,9	153,3						

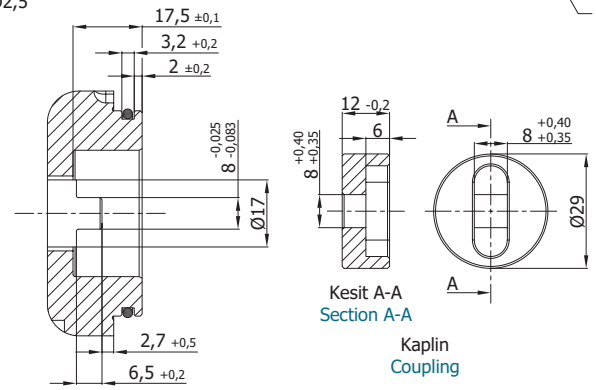
* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

N *Ön Kapak* *Front Cover*

T *Şaft Tipi* *Shaft Type*





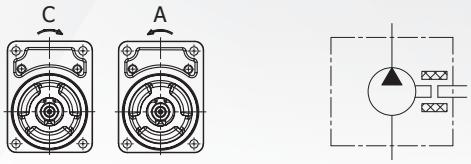


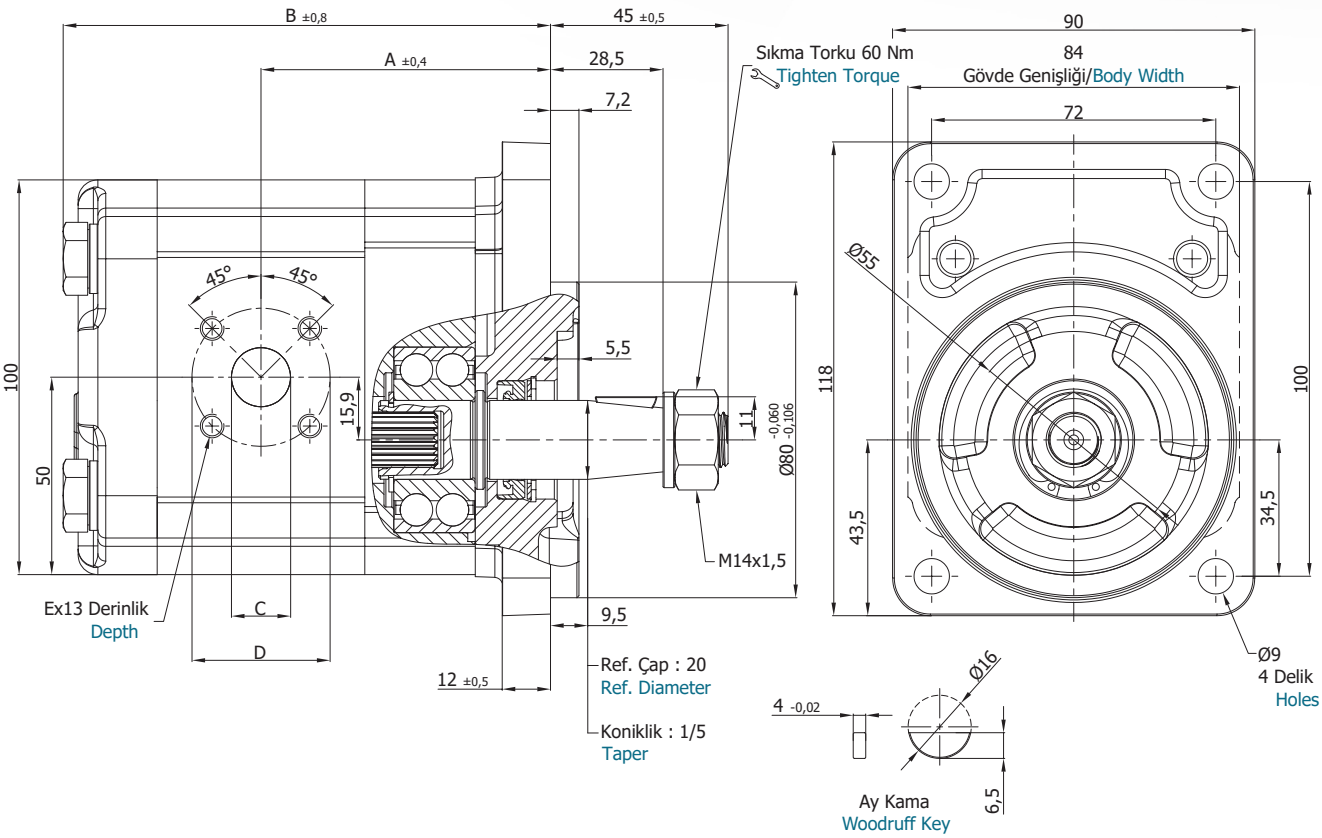
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Z ±0,8	Giriş – Inlet			Çıkış - Outlet		
							C	D	E	c	d	e
AP20.040.A/CNT01SN	3,9	250	3500	41,7	80,9	75,9	12	40	M6	12	35	M6
AP20.060.A/CNT01SN	5,9			43,3	84,0	79,0	13,5			13,5		
AP20.080.A/CNT01SN	8,0			44,8	87,1	82,1	20			15		
AP20.095.A/CNT01SN	9,4			46,0	89,4	84,4						
AP20.115.A/CNT01SN	11,4		3000	47,5	92,6	87,6						
AP20.140.A/CNT01SN	13,9			49,5	96,5	91,5						
AP20.160.A/CNT01SN	16,0			51,0	99,6	94,6						
AP20.190.A/CNT01SN	19,2			59,5	116,7	111,7						
AP20.220.A/CNT01SN	21,9	210	2500	61,8	121,0	116,0						
AP20.250.A/CNT01SN	24,8	190		64,3	126,1	121,1						
AP20.280.A/CNT01SN	27,9	170	2200	66,5	130,4	125,4				20	40	
AP20.320.A/CNT01SN	32,0	160	2000	69,5	136,6	131,6						
AP20.340.A/CNT01SN	34,0	150		71,0	140,1	135,1						
AP20.380.A/CNT01SN	38,0	140	1750	74,3	146,1	141,1						
AP20.400.A/CNT01SN	40,0	130		76,0	149,6	144,6						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

H *Ön Kapak* / *Front Cover*

K *Şaft Tipi* / *Shaft Type*



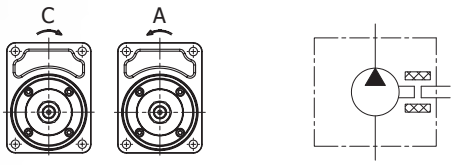


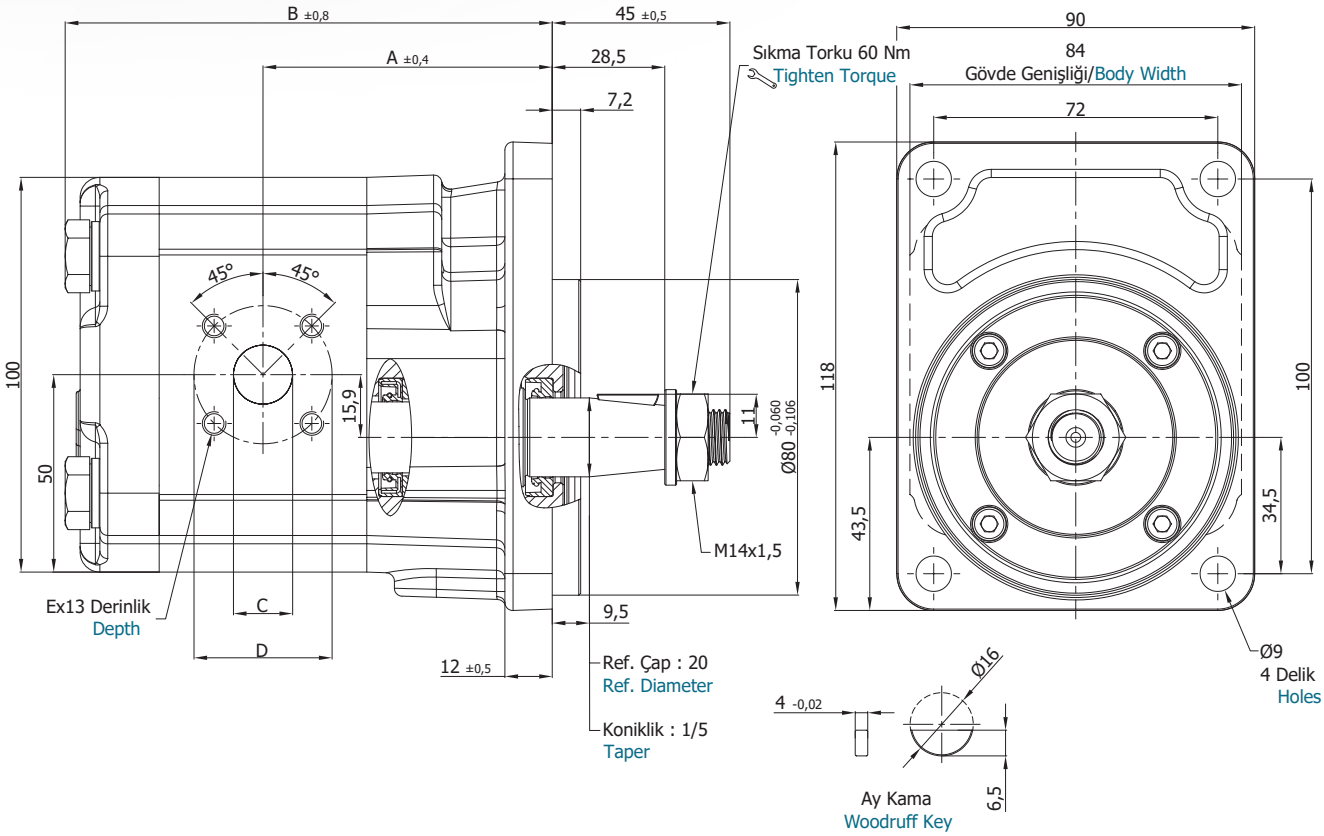
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP20.040.A/CHK01SO7N	3,9	250	3500	70,2	117,2	12	40	M6	12	35	M6
AP20.060.A/CHK01SO7N	5,9			71,8	120,3	13,5			13,5		
AP20.080.A/CHK01SO7N	8,0			73,3	123,4	20			15		
AP20.095.A/CHK01SO7N	9,4			74,5	125,7						
AP20.115.A/CHK01SO7N	11,4		3000	76,0	128,9						
AP20.140.A/CHK01SO7N	13,9			78,0	132,8						
AP20.160.A/CHK01SO7N	16,0			79,5	135,9						
AP20.190.A/CHK01SO7N	19,2			88,0	153,0						
AP20.220.A/CHK01SO7N	21,9	210	2500	90,3	157,3						
AP20.250.A/CHK01SO7N	24,8	190		92,8	162,4						
AP20.280.A/CHK01SO7N	27,9	170	2200	95,0	166,7				20	40	
AP20.320.A/CHK01SO7N	32,0	160	2000	98,0	172,9						
AP20.340.A/CHK01SO7N	34,0	150		99,5	176,4						
AP20.380.A/CHK01SO7N	38,0	140	1750	102,8	182,4						
AP20.400.A/CHK01SO7N	40,0	130		104,5	185,9						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

H *Ön Kapak* / *Front Cover*

K *Şaft Tipi* / *Shaft Type*





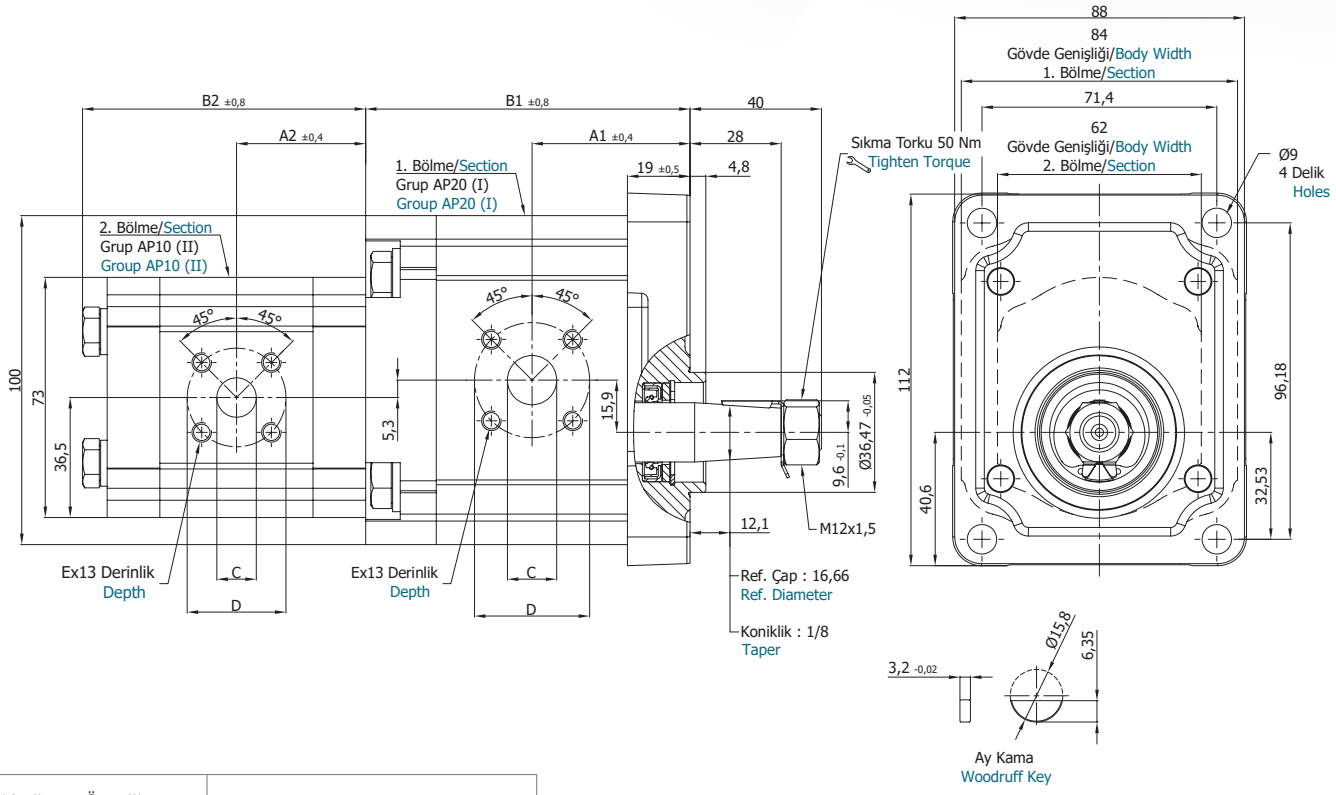
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	A ±0,4	B ±0,8	Giriş – Inlet			Çıkış - Outlet		
						C	D	E	c	d	e
AP20.040.A/CHK01SO8N	3,9	250	3500	70,2	117,2	12	40	M6	12	35	M6
AP20.060.A/CHK01SO8N	5,9			71,8	120,3	13,5			13,5		
AP20.080.A/CHK01SO8N	8,0			73,3	123,4	20			15		
AP20.095.A/CHK01SO8N	9,4			74,5	125,7						
AP20.115.A/CHK01SO8N	11,4		3000	76,0	128,9						
AP20.140.A/CHK01SO8N	13,9			78,0	132,8						
AP20.160.A/CHK01SO8N	16,0			79,5	135,9						
AP20.190.A/CHK01SO8N	19,2			88,0	153,0						
AP20.220.A/CHK01SO8N	21,9	210	2500	90,3	157,3						
AP20.250.A/CHK01SO8N	24,8	190		92,8	162,4						
AP20.280.A/CHK01SO8N	27,9	170	2200	95,0	166,7				20	40	
AP20.320.A/CHK01SO8N	32,0	160	2000	98,0	172,9						
AP20.340.A/CHK01SO8N	34,0	150		99,5	176,4						
AP20.380.A/CHK01SO8N	38,0	140	1750	102,8	182,4						
AP20.400.A/CHK01SO8N	40,0	130		104,5	185,9						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

A *Ön Kapak* / *Front Cover*

B *Şaft Tipi* / *Shaft Type*





-Kodlama Örneği -Code Example	AP20.220/AP10.050.CAB701SN-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		
AP20 (I)	AP10 (II)	AP20 (I)	AP10 (II)	AP20 (I)	AP10 (II)		A1 ±0,4	B1 ±0,8	A2 ±0,4	B2 ±0,8	C	D	E	c	d	e
040	009	3,9	0,9	250	220	Bilgi için lütfen satış departmanı ile iletişime geçin. For information please contact with sales department.	42,2	86,9	34,9	77,4	12	40**	M6	12	35**	M6
060	012	5,9	1,2				43,8	90,0	35,5	78,6	13,5**			13,5**		
080	017	8,0	1,7				45,3	93,1	36,5	80,6	20**			15**		
095	023	9,4	2,3				46,5	95,4	37,5	82,6						
115	027	11,4	2,7				48,0	98,6	38,5	84,6						
140	032	13,9	3,2				50,0	102,5	39,3	86,1						
160	038	16,0	3,8				51,5	105,6	40,5	88,6						
190	043	19,2	4,3				60,0	122,7	41,5	90,6						
220	050	21,9	5,0	210			62,3	127,0	43,0	93,6						
250	059	24,8	5,9	190			64,8	132,1	44,8	97,1						
280	063	27,9	6,3	170			67,0	136,4	45,5	98,6				20**	40**	
320	078	32,0	7,8	160	210		70,0	142,6	48,5	104,6						
340	095	34,0	9,5	150	200		71,5	146,1	52,0	111,6						
380		38,0		140			74,8	152,1								
400		40,0		130			76,5	155,6								

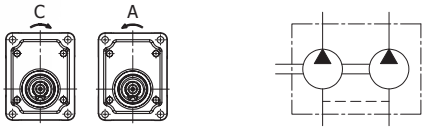
** 2. Bölme (AP10 Pompalar) için Giriş Port Ölçüleri: ** Inlet Port Dimensions for Section 2 (AP10 Pumps):	C=12; D=30; E=M6

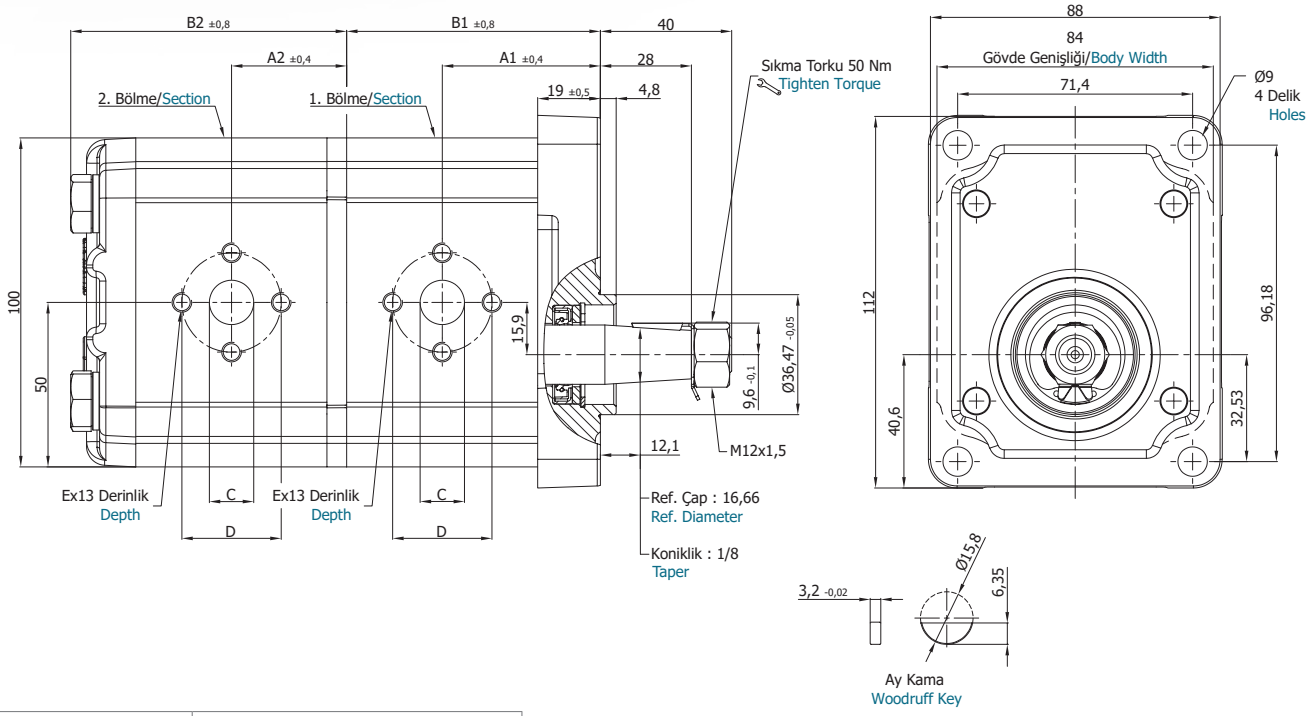
** 2. Bölme (AP10 Pompalar) için Çıkış Port Ölçüleri: ** Outlet Port Dimensions for Section 2 (AP10 Pumps):	C=12; D=30; E=M6

* Değerler "4 - 28 cc" aralığında APH20 için de geçerlidir. Values also apply for APH20 in the "4 - 28 cc" range.
* Tüm AP10 değerleri APH10 için de geçerlidir. All AP10 values also apply for APH10.

A *Ön Kapak* *Front Cover*

B *Şaft Tipi* *Shaft Type*





-Kodlama Örneği -Code Example	AP20.220/220.CAB702SN-T

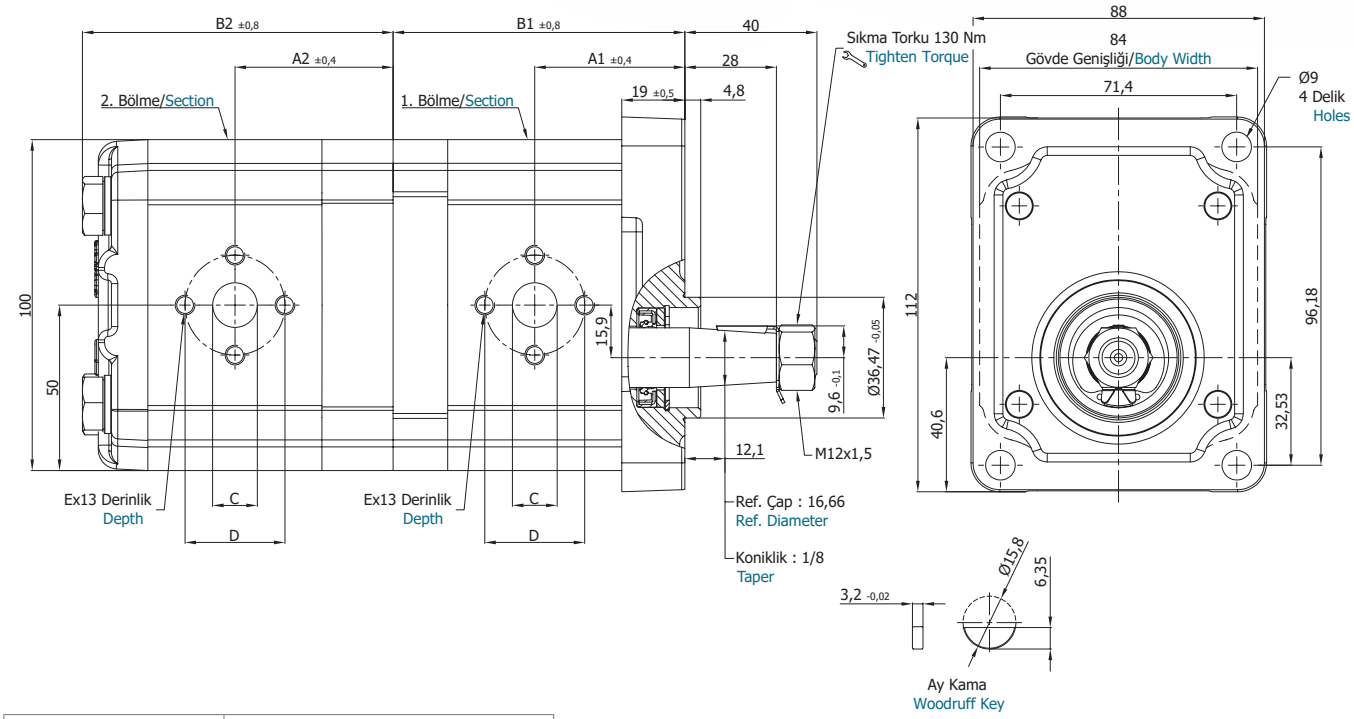
Pompa Kodu Pump Code	İletim Hacmi Displacement cm³/dev (cm³/rev)	Maks. Basınç Max. Pressure (bar)	Maks. Hız Max. Speed d/d (rpm)	1. Bölme/Section		2. Bölme/Section		Giriş – Inlet			Çıkış - Outlet		
				A1 ±0,4	B1 ±0,8	A2 ±0,4	B2 ±0,8	C	D	E	c	d	e
AP20.040.A/CAB702SN	3,9	250	3500	42,2	65,4	29,2	72,2	12	30,2	M6	12	30,2	M6
AP20.060.A/CAB702SN	5,9			43,8	68,5	30,8	75,3	13,5			13,5		
AP20.080.A/CAB702SN	8,0			45,3	71,6	32,3	78,4						
AP20.095.A/CAB702SN	9,4			46,5	73,9	33,5	80,7	20	40	M8			
AP20.115.A/CAB702SN	11,4		3000	48,0	77,1	35,0	83,9						
AP20.140.A/CAB702SN	13,9			50,0	81,0	37,0	87,8						
AP20.160.A/CAB702SN	16,0			51,5	84,1	38,5	90,9						
AP20.190.A/CAB702SN	19,2			60,0	101,2	47,0	108,0						
AP20.220.A/CAB702SN	21,9	210	2500	62,3	105,5	49,3	112,3						
AP20.250.A/CAB702SN	24,8	190		64,8	110,6	51,8	117,4						
AP20.280.A/CAB702SN	27,9	170	2200	67,0	114,9	54,0	121,7				20	40	M8
AP20.320.A/CAB702SN	32,0	160	2000	70,0	121,1	57,0	127,9						
AP20.340.A/CAB702SN	34,0	150		71,5	124,6	58,5	131,4						
AP20.380.A/CAB702SN	38,0	140	1750	74,8	130,6	61,8	137,4						
AP20.400.A/CAB702SN	40,0	130		76,5	134,1	63,5	140,9						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.

A *Ön Kapak* / *Front Cover*

B *Şaft Tipi* / *Shaft Type*

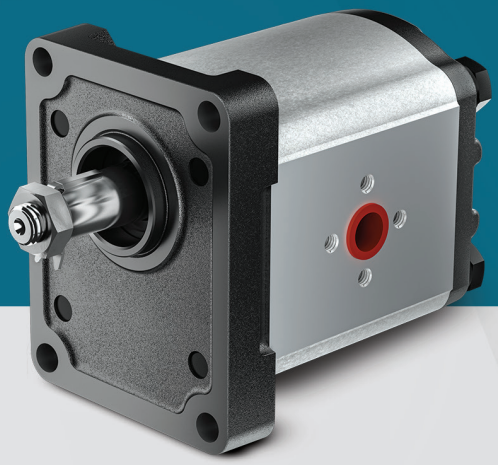




-Kodlama Örneği -Code Example	AP20.220/220.CAB702SN-M

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	E	c	d	e
AP20.040.A/CAB702SN	3,9	250	3500	42,2	81,9	44,7	87,7	12	30,2	M6	12	30,2	M6
AP20.060.A/CAB702SN	5,9			43,8	85,0	46,3	90,8	13,5			13,5		
AP20.080.A/CAB702SN	8,0			45,3	88,1	47,8	93,9						
AP20.095.A/CAB702SN	9,4			46,5	90,4	49,0	96,2	20	40	M8			
AP20.115.A/CAB702SN	11,4		3000	48,0	93,6	50,5	99,4						
AP20.140.A/CAB702SN	13,9			50,0	97,5	52,5	103,3						
AP20.160.A/CAB702SN	16,0			51,5	100,6	54,0	106,4						
AP20.190.A/CAB702SN	19,2			60,0	117,7	62,5	123,5						
AP20.220.A/CAB702SN	21,9	210	2500	62,3	122,0	64,8	127,8						
AP20.250.A/CAB702SN	24,8	190		64,8	127,1	67,3	132,9						
AP20.280.A/CAB702SN	27,9	170	2200	67,0	131,4	69,5	137,2				20	40	M8
AP20.320.A/CAB702SN	32,0	160	2000	70,0	137,6	72,5	143,4						
AP20.340.A/CAB702SN	34,0	150		71,5	141,1	74,0	146,9						
AP20.380.A/CAB702SN	38,0	140	1750	74,8	147,1	77,3	152,9						
AP20.400.A/CAB702SN	40,0	130		76,5	150,6	79,0	156,4						

* Değerler “4 - 28 cc” aralığında APH20 için de geçerlidir. Values also apply for APH20 in the “4 - 28 cc” range.



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