

Standard power unit

ABPAC

configurable

connectable

efficient

Filter cooler unit

IoT gateway rack

Variable-speed motor-pump assembly

Mechanical basic elements

Accumulator station with accumulator shut-off block



The ABPAC is a smart standard power unit for all areas in which hydraulic solutions are used and a pressure supply unit is required – for example, in general mechanical engineering, metal-cutting machine tools, as well as in presses and material handling.

Tank

Return flow filter

Multifunctional block with pressure filter

An individual hydraulic power unit efficiently produced as a serial product: tailored, cost-effective, intelligent

Hydraulic power units for mechanical engineering are subject to stricter requirements than ever before: they should be powerful, energy-efficient, and quickly available, yet also intelligent, flexible, and of course cost-effective at the same time. With the ABPAC standard power units, Bosch Rexroth has come up with a convincing answer. The online configurator enables you to find your individual solution in no time. Your entry into Industry 4.0?

Short delivery times, faster startup

The portfolio of components defined in the modular system can reproduce a wide range of customer-specific power unit solutions via the convenient online configurator. The configurator immediately provides you with all the necessary information – from technical data through to prices. Everything is comprehensively documented. If you require individual solutions outside the modular system, your usual Rexroth contact will be happy to assist you at all times.

Delivery times are drastically reduced due to the use of standard components from Bosch Rexroth's GoTo program, standardized manufacturing processes, and a flexible steel construction concept without welding.

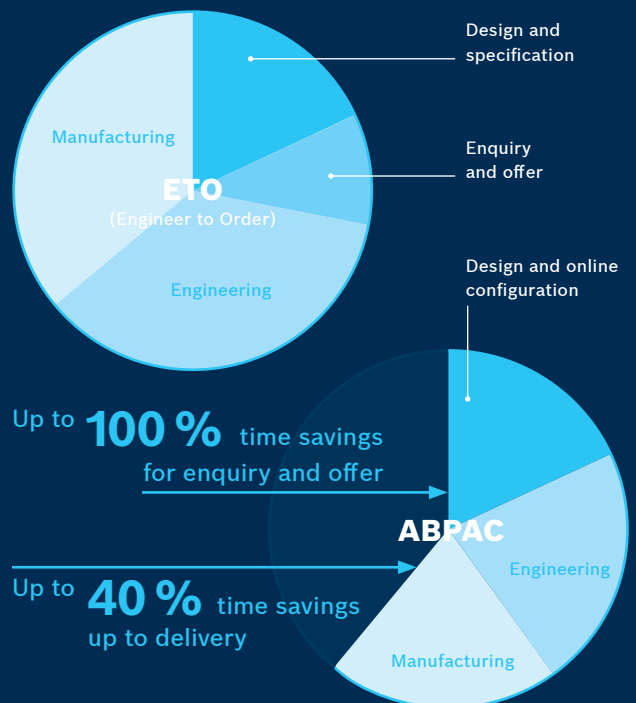
Ready for IoT

The IoT gateway software offers you transparency for your machine and process data. Real-time monitoring of process data, such as temperature, pressure and vibration, ensures consistently high quality in production. Rule-based evaluation of specific information simplifies predictive maintenance of your systems.

SPECIAL PROPERTIES

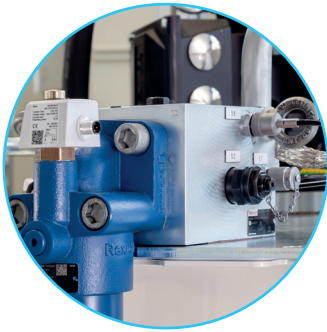
- ▶ Browser-based configuration
- ▶ Rapid design and transparency
- ▶ Visualization via web app
- ▶ Open interfaces
- ▶ Integration of a variety of different data sources
- ▶ Interface to big data systems (e.g. ODIN)

POWER UNITS IN A FLASH



The online configurator delivers time savings of up to 100 % at the enquiry and offer stage; standard modules reduce engineering and production outlay by up to 40 %.

Consistently modular: never before was a standard power unit so easy to individualize and so efficient to produce.



Multifunctional block: with all basic functions and with variable interfaces

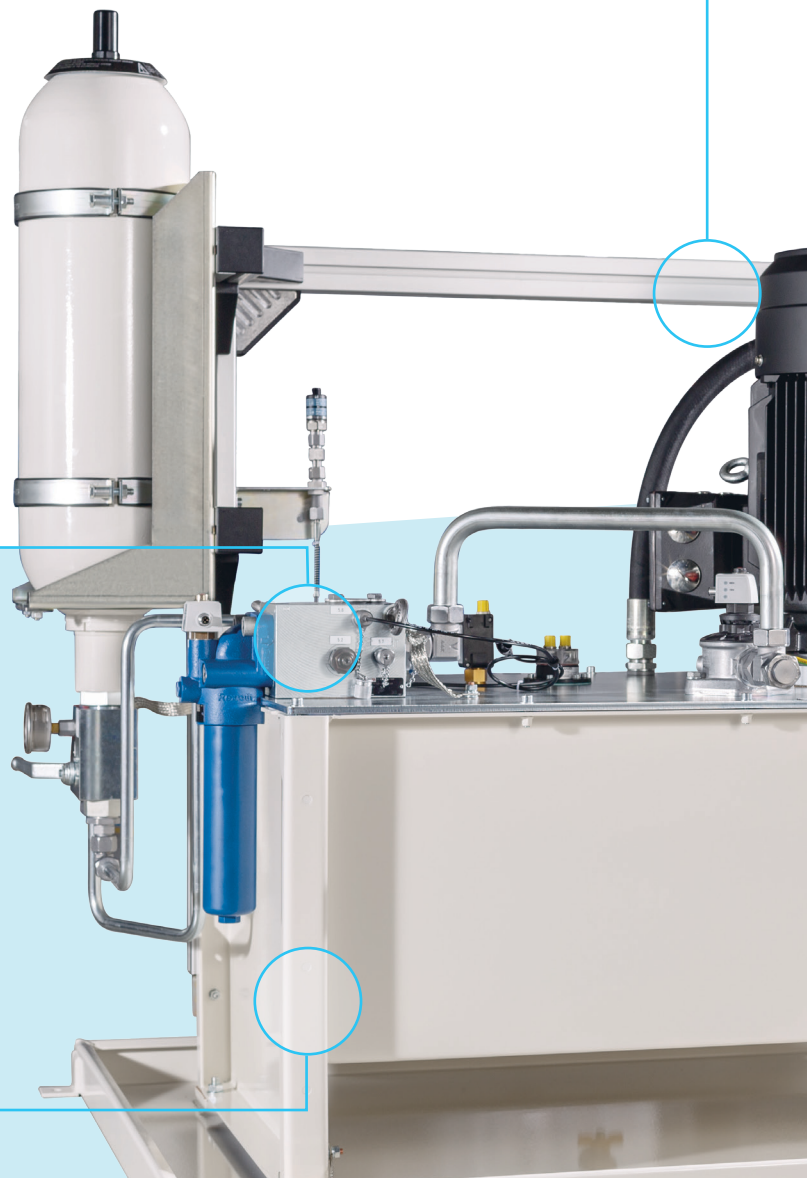
The extremely compact multifunctional block contains all the standard basic functions you need – from pressure filtration through to the bypass for FcP/SvP applications. It is the central interface to advanced hydraulic control systems. This saves space, reduces the piping work and gives you the option to integrate the hydraulic control either in the ABPAC or in the machine. There are four designs available in two sizes (with/without pressure filtration as well as with/without mounting option for the standard hydraulic control IH20).

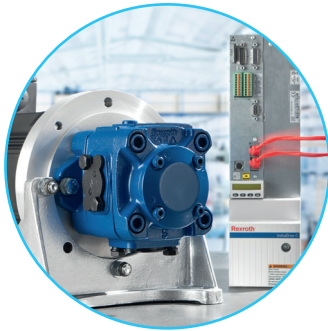
Clever design: screws instead of welding

The steel construction and tank concept provide unprecedented flexibility. The standardized basic tanks require no welded-on elements and are available in tank capacities between 100 and 630 liters. The variance is in the assembly instead of the steel construction as is usual, which considerably reduces delivery and commissioning times. Individual adjustments can be made without any problems via the screwed cover. The ratio between hydraulic power and tank capacities can be easily optimized, depending on the application.

Mechanical basic elements: flexible set-ups, extensions, adjustments

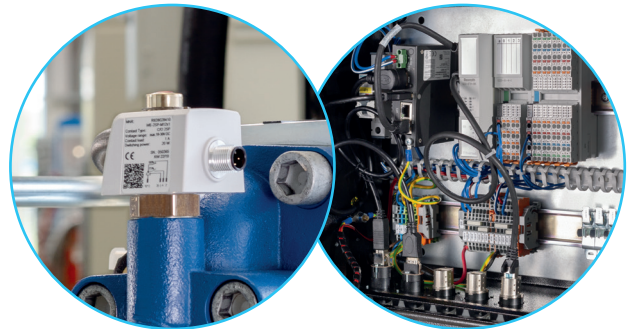
The Rexroth mechanical basic elements fit anywhere on each side of the tank. The dimensions are variable in this respect, with the variance arising only in assembly. This offers a high degree of flexibility and allows customer-specific add-ons to realize easily.





**Save energy:
with variable-speed Sytronix drives**

You can save a lot of energy and money when you optionally use drives from the Sytronix modular system. The FcP 5020 and SvP 7020 variable-speed drives are not only particularly powerful and quiet, more importantly, they save up to 80 % energy!



Connectable:

i4.0-ready thanks to comprehensive sensor package

A comprehensive and universal sensor package continuously records all relevant system states, such as oil quality, efficiency, pressures, filling levels and temperatures. Pre-evaluation and forwarding via the IoT gateway enable predictive condition monitoring. The ABPAC can be connected vertically and horizontally. Visualization of power unit states can be performed simply by means of an intuitive web browser interface. The IoT gateway concept therefore requires minimal effort for commissioning and offers optimally convenient operation.

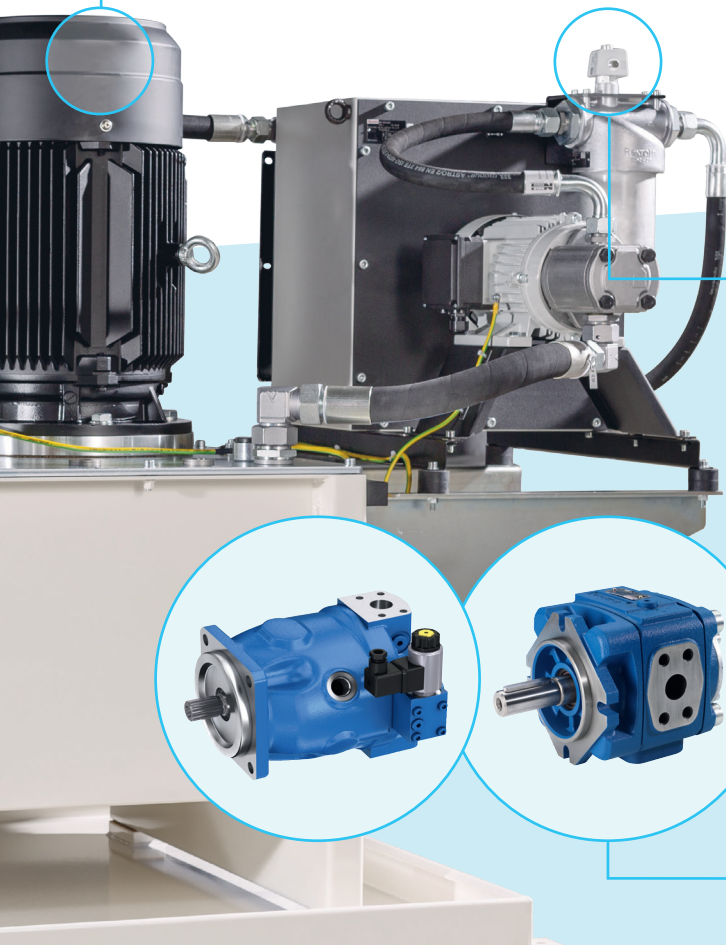
Individual:

the right drive for every application

With the different fixed and variable displacement pumps you can easily implement your individual drive concept. And in the smallest space – with the same performance range. The current motor standards IE3 or IE4 (Conversion to 75kW IE4) are thereby complied with at all times.

Available pumps:

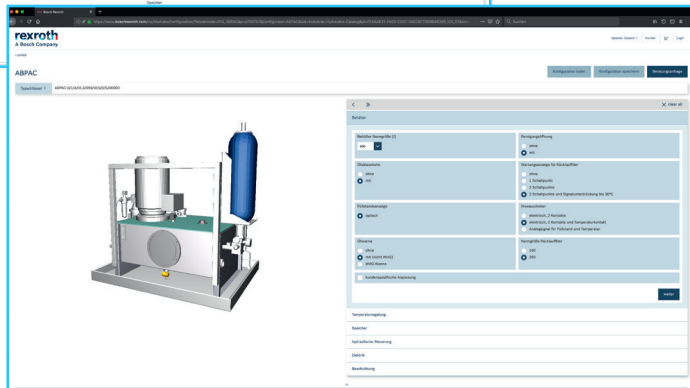
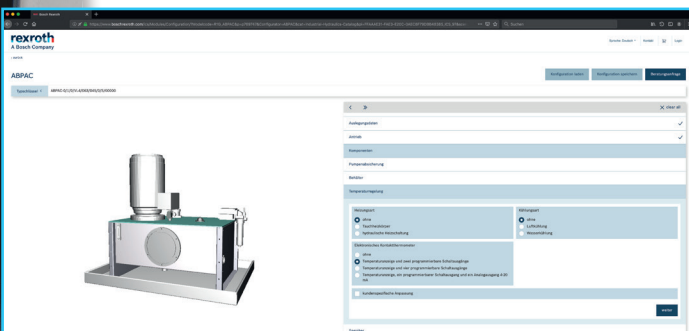
- ▶ Internal gear pumps (PGH, PGF, fixed displacement pumps installed vertically)
- ▶ External gear pumps (AZPJ [Silence Plus])
- ▶ Axial piston pumps (A10VSO NG140 series 32 pumps installed horizontally)



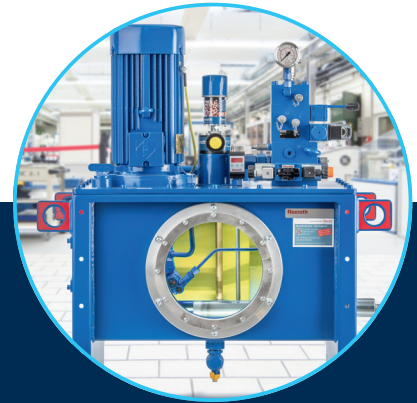
Easy to configure online: get your own solution with just a few clicks



The ABPAC is consistently modular in design and can be configured in a few clicks with the online configurator based on the requirements and hydraulic assemblies required. The software tool guides you clearly through the process. It queries the hydraulic and technical key data, such as working pressure, flow, and the type of actuator, and proposes the appropriate assemblies.



As soon as the configuration is complete, the program produces a complete documentation package with initial information on installation dimensions, parts lists, price, and delivery time. You can quickly and easily jump to customer-specific adaptations at any time. Additional assemblies such as coolers or control systems can also be configured. You can therefore design a customized power unit more easily than ever before.



ADVANTAGES AT A GLANCE

- +** **Online configurator** for customized power units including documentation
- +** Intelligent **condition monitoring** via standardized bus interface and advanced sensor technology
- +** User-driven, platform-neutral **visualizations** on smart devices
- +** Sytronix FcP and SvP (optional) for increased **energy efficiency** and **noise reduction**
- +** Basic functions integrated in the **multifunctional block**
- +** **Interface** to additional hydraulic control concepts
- +** Wide **area of applications**: metal-cutting machine tools, wood processing, presses, plastics processing machines, etc.
- +** Products from the GoTo program for **optimized delivery times**

Configurations

TECHNICAL KEY DATA

- ▶ Tank capacity: 100 to 630 liters
- ▶ Flow: max. 200 l/min
- ▶ Operating pressure: max. 315 bar
- ▶ Multifunctional block: in 4 designs
- ▶ Sytronix modular system: optionally FcP 5020
- ▶ Design: simplified, flexible steel construction

Power unit variants	Pump types	Q _{thmax} l/min 1,450 rpm	Pressure Tank	Nominal power electric motor [kW]												
				3	4	5,5	7,5	11	15	18,5	22	30	37	45	55	75
with fixed displacement pump		27	p [bar] Size		82 100	112 100 160	153 100 160	210 160 250								
		29	p [bar] Size		67 100	94 100 160	130 100 160	195 160 250	210 160 250							
		36	p [bar] Size		53 160	76 160	105 160	156 160 250	210 160 250							
		47	p [bar] Size			65 160	89 160	132 160 250	180 160 250	210 250 400						
		58	p [bar] Size				63 250	97 250	135 250	169 250 400	180 250 400					
	PGH4-X/020	29	p [bar] Size					203 160 250	280 160 250	315 250 400						
	PGH4-X/025	36	p [bar] Size					161 160 250	221 160 250	274 250 400	315 250 400					
	PGH4-X/032	47	p [bar] Size						173 160 250	212 250 400	252 250 400	315 250 400				
	PGH4-X/040	58	p [bar] Size							174 250 400	207 250 400	281 250 400	315 400			
	PGH4-X/050	73	p [bar] Size							142 250 400	170 250 400	233 250 400	250 400	250 400		
	PGH5-X/063	93	p [bar] Size								127 400	175 400	216 400	265 400		
with external gear pump	AZPJ-22-016	22	p [bar] Size	67 100	91 100	127 100 160	174 100 160	250 160 250								
	AZPJ-22-019	27	p [bar] Size	57 100	77 100	107 100 160	147 100 160	215 160 250	250 160 250							
	AZPJ-22-022	31	p [bar] Size		64 100 160	89 100 160	123 100 160	181 160 250	210 160 250							
	AZPJ-22-025	35	p [bar] Size			81 160	111 160	165 160 250	185 160 250							
	AZPJ-22-028	39	p [bar] Size			71 160	98 160	130 160 250								
with control pump and DFR1/DRS (NG140 series 32 with DRS-regulator)	A10VSO 18	26	p [bar] Size		90 100	110 100	138 100	228 160	280 160							
	A10VSO 28	40	p [bar] Size			70 160	95 160	132 160 250	180 160 250	222 250	280 250					
	A10VSO 45	65	p [bar] Size				60 250	81 250	111 250	137 250 400	162 250 400	222 400 630	280 400 630			
	A10VSO 71	102	p [bar] Size						72 400	89 400	106 400	144 400 630	178 400 630	220 400 630	280 630	
	A10VSO 100	145	p [bar] Size							61 400	73 400	99 400 630	136 400 630	170 400 630	205 630	280 630
	A10VSO 140	203	p [bar] Size											119 630	146 630	200 630
with control pump and DFLR controller	A10VSO 45	65	p max [bar] Size				280 250									
	A10VSO 71	102	p max [bar] Size					280 400	280 400	280 400						
	A10VSO 100	145	p max [bar] Size							280 400	280 400					

ABPAC hydraulic power unit configurations with Sytronix FCP 5020

Pumps						Motors					
$n_{max} = 3,000$ (PGH); $3,600$ (PGF) rpm						4	5,5	7,5	11	15	$P_{nom}[kW]$
Type	Size	p_{cont} [bar]	p_{max} [bar]	Q_{peff} [l/min]	Q_{max} [l/min]	4,000	4,000	4,000	3,800	3,800	n_{max} [rpm]
PGF2 Tank Size	8.0	210	250	19	29	139 100					p_{eff} [bar] (without efficiency)
PGF2 Tank Size	13.0	210	250	31	47		119 100 160				
PGF2 Tank Size	19.0	210	250	46	68		84 160	114 160 250			
PGH2 Tank Size	8.0	315	350	19	24	143 100	198 100	269 100			
PGH3 Tank Size	13.0	315	350	31	39	88 100 160	122 100 160	166 100 160	244 160		
PGH4 Tank Size	20.0	315	350	48	60		79 160	108 160 250	158 160 250	216 160 250	
PGH4 Tank Size	32.0	315	350	77	98				99 250	135 250 400	
PGH4 Tank Size	50.0	250	310	120	152					86 400	

Reduced delivery times due to online configuration and standard components

			Dept	Step	Time
ETO	Customer	Engineer.		Syst. Design & Specification	
			Check		
			Enquiry		
		Purchase	Request for Quotation		
			Check		
	Bosch Rexroth		Order		
		Sales	Request for Quotation		
			Offer		
			Orders In		
		Engineer.	Pre-Engineering		
	Engineer.	Engineering			
	Manufact.	Check			
		Production			
Processing Time					
					$\leq - 100 \%^*$
					$\leq - 40 \%$
ABPAC	Customer	Engineer.		Syst. Design & Online Config.	
			Check		
			Enquiry		
		Purchase	Request for Quotation		
			Check		
	Bosch Rexroth		Order		
		Sales	Request for Quotation		
			Offer		
			Orders In		
		Engineer.	Engineer. based on Standards		
	Engineer.	Engineering			
	Manufact.	Check			
		Prod. based on Standards			

* In case of special requests, processing time extends accordingly

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