

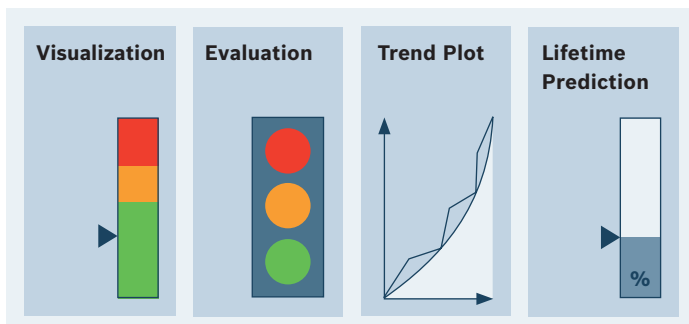
The intelligent ABPAC standard power unit: configurable, networkable, energy-efficient



# A hydraulic power unit as it should be: intelligent, customized, cost-optimized



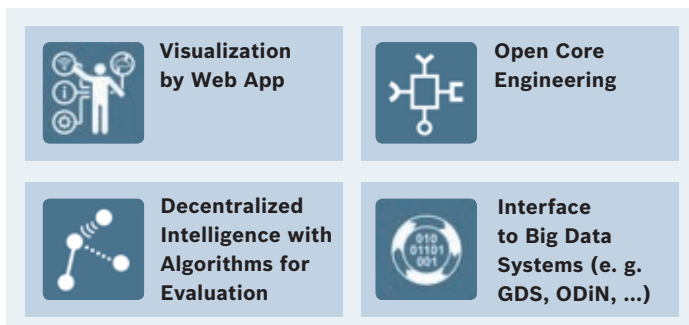
Hydraulic power units for mechanical engineering are being subjected to higher requirements than ever before: they should be powerful, energy-efficient, and quickly available, yet also intelligent, flexible, and of course, cost-effective at the same time. With the new ABPAC series standard power units, Bosch Rexroth has come up with a convincing answer. With the online configurator, you will find your individual solution faster than ever. Your entry into Industry 4.0?



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

### Short delivery times, a quicker start

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 Bosch Rexroth standard components from the GoTo program, standardized manufacturing processes, and a flexible steel construction concept (without welding).



### Clever condition monitoring with Open Core Interface

An extended sensor package and open interfaces provide the basis for the web-based visualization of the operating states and condition-based maintenance.

The operating states of the individual components and the entire power unit are visualized through evaluation of the sensor data directly on the ABPAC.

## ABPAC hydraulic power unit configurations

Power unit variants	Pump types	Q <sub>thmax</sub> 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	
with fixed displacement pump	PGF2-2X/019	27	p [bar] NG	82 100	112 100 160	153 100 160	210 160 250								
	PGF3-3X/020	29	p [bar] NG	67 100	94 100 160	130 100 160	195 160 250	210 160 250							
	PGF3-3X/025	36	p [bar] NG	53 160	76 160	105 160	156 160 250	210 160 250							
	PGF3-3X/032	47	p [bar] NG		65 160	89 160	132 160 250	180 160 250	210 250 400						
	PGF3-3X/040	58	p [bar] NG			63 250	97 250	135 250	169 250 400	180 250 400					
	PGH4-X/020	29	p [bar] NG				203 160 250	280 160 250	315 250 400						
	PGH4-X/025	36	p [bar] NG				161 160 250	221 160 250	274 250 400	315 250 400					
	PGH4-X/032	47	p [bar] NG					173 160 250	212 250 400	252 250 400	315 250 400				
	PGH4-X/040	58	p [bar] NG						174 250 400	207 250 400	281 250 400	315 400			
	PGH4-X/050	73	p [bar] NG							142 250 400	170 250 400	233 250 400	250 400	250 400	
PGH5-X/063	93	p [bar] NG								127 400	175 400	216 400	265 400		
with external gear pump	AZPJ-22-016	22	p [bar] NG	67 100	91 100	127 100 160	174 100 160	250 160 250							
	AZPJ-22-019	27	p [bar] NG	57 100	77 100	107 100 160	147 100 160	215 160 250	250 160 250						
	AZPJ-22-022	31	p [bar] NG	64 100 160	89 100 160	123 100 160	181 160 250	210 160 250							
	AZPJ-22-025	35	p [bar] NG		81 160	111 160	165 160 250	185 160 250							
	AZPJ-22-028	39	p [bar] NG		71 160	98 160	130 160 250								
with control pump and DFR1 controller	A10VSO 18	26	p [bar] NG	90 100	110 100	138 100	228 160								
	A10VSO 28	40	p [bar] NG			95 160	132 160 250	180 250	222 250						
	A10VSO 45	65	p [bar] NG			60 250	81 250	111 250	137 250	162 250 400	222 400				
	A10VSO 71	102	p [bar] NG					72 400	89 400	106 400	144 400	178 400	220 400		
	A10VSO 100	145	p [bar] NG						61 400	73 400	99 400	136 400	170 400		
with control pump and DFLR controller	A10VSO 45	65	p max [bar] NG				280 250								
	A10VSO 71	102	p max [bar] NG					280 400	280 400	280 400					
	A10VSO 100	145	p max [bar] NG						280 400	280 400					

## ABPAC hydraulic power unit configurations with Sytronix FCP5020

Type	Pumps					Motors					P <sub>nom</sub> [kW]	P <sub>eff</sub> [bar] (without efficiency)
	NG	n <sub>max</sub> = 3000 (PGH); 3600(PGF) U/min			4	5,5	7,5	11	15	P <sub>nom</sub> [kW]		
		p <sub>cont</sub> [bar]	p <sub>max</sub> [bar]	Q <sub>peff</sub> [l/min]	Q <sub>max</sub> [l/min]	4000	4000	4000	3800	3800		n <sub>max</sub> [rpm]
PGF2	8,0	210	250	19	29	139						
Tank NS						100						
PGF2	13,0	210	250	31	47		119					
Tank NS							100 160					
PGF2	19,0	210	250	46	68		84	114				
Tank NS							160	160 250				
PGH2	8,0	315	350	19	24	143	198	269				
Tank NS						100	100	100				
PGH3	13,0	315	350	31	39	88	122	166	244			
Tank NS						100 160	100 160	100 160	160			
PGH4	20,0	315	350	48	60		79	108	158	216		
Tank NS							160	160 250	160 250	160 250		
PGH4	32,0	315	350	77	98				99	135		
Tank NS									250	250 400		
PGH4	50,0	250	310	120	152					86		
Tank NS										400		

# Consistently modular: never before was a standard power unit so easy to individualize



## **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 power spectrum. The current motor standards (IE3 as standard) are thereby complied with at all times.

Available pumps:

- ▶ Internal gear pumps (PGH, PGF, fixed displacement pumps vertically installed)
- ▶ External gear pumps (AZPJ (Silence Plus))
- ▶ Axial piston pumps (A10VSO/31 and 32, A4VSO, variable displacement pumps horizontally installed)

## **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 5010 and SvP 7010 variable-speed drives are not only particularly powerful and quiet, more importantly, they save up to 80% energy!

## **Multifunctional block: with all basic functions and 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 in two

sizes available (with/without pressure filtration as well as with/without mounting option for the standard hydraulic control IH20).

#### **Clever design: screws instead of welding**

A new steel structure and tank concept provides unprecedented flexibility: the standardized basic tanks do without welded-on elements and are available in tank capacities ranging 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: for flexible set-ups, extensions, adjustments**

The Rexroth mechanical basic elements can be fitted anywhere on each side of the tank, the dimensions are thereby variable, the variance arises only in assembly. This offers a high degree of flexibility and customer-specific attachments are easily possible.

#### **Extensive sensor package integrates ABPAC in the Industry 4.0 environment.**

A comprehensive, universally applicable sensor package continuously records all relevant system states (oil quality, efficiency, pressures, filling levels, temperatures, etc.), which thus enables predictive condition monitoring.

The optional sensor node has its own PLC as well as analog and digital inputs and outputs. This allows the sensor values to be evaluated directly on the power unit and conclusions can be drawn concerning the state and the life cycle of the individual components.



Accumulator station

Multifunctional block



Open interfaces (such as multi-Ethernet) can pass on all relevant operating states, and the ABPAC is networked both vertically and horizontally. Local control solutions and visualisation of operating status are realizable through an intuitiv Web-Browser-Interface. An optional WLAN interface enables controlling and monitoring by means of a tablet or smart-phone. This decentralized condition monitoring concept offers minimum effort when commissioning and maximum comfort during operation – the prerequisite for predictive maintenance.

All in all the ABPAC represents an extrem user oriented entry to industry 4.0, which with use of speed-variabel Sytronix drives FcP and SvP additional is very quiet and energy efficient.



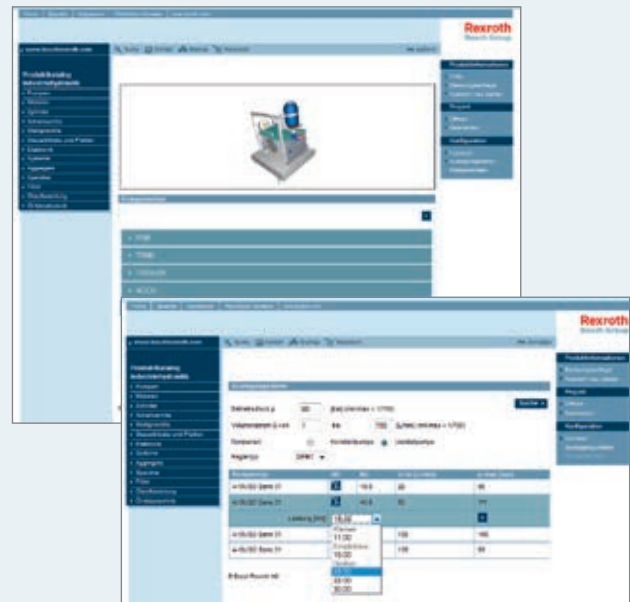
# Easy to configure: get your own solution with just a few clicks



## Online configurator: configured faster, delivered faster

The ABPAC is consistently modular in design and can be configured with a few clicks of 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.

Immediately after completing the configuration, the program produces a complete documentation package. You will also receive a 3D model of the power unit, which is compatible with Pro/ENGINEER CAD software, as well as initial information on the 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. Could it be easier?



## Your advantages at a glance

- ▶ Online configurator for customized power units together with documentation
- ▶ Intelligent condition monitoring via standardized bus interfaces and extended sensor technology
- ▶ User-oriented, platform-independent visualizations on smart devices
- ▶ Sytronix FcP and SvP (optional) for increased energy efficiency and reduced noise emission
- ▶ Basic functions integrated in the multifunctional block
- ▶ Interface to additional hydraulic control concepts
- ▶ Wide area of application: metal-cutting machine tools, wood processing, presses, plastics processing machines, etc.
- ▶ Products from the GoTo program for optimized delivery times



## Technical key data

- ▶ Tank capacity 100 to 630 liters
- ▶ Maximum flow 200 l/min
- ▶ Maximum operating pressure 315 bar
- ▶ Multifunctional block in 4 variants
- ▶ Sytronix modular system as an option (FcP 5010, SvP 7010)
- ▶ Simplified, flexible steel construction

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