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quality products for mechanical & fluid power

[www.jbj.co.uk/vanepumps.html](http://www.jbj.co.uk/vanepumps.html)

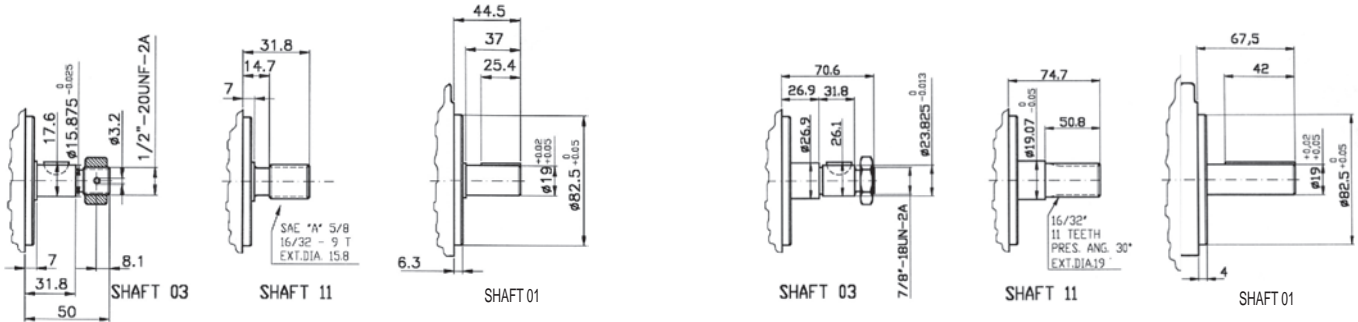


## Performance Data

Cartridge model		Geometric displacement	Rated capacity at 1500 rpm & 7 bar	Max. pressure with mineral oil (BV)	Max. pressure with mineral oil (BQ/TV/TQ)	Minimum operating speed (ALL)	Maximum operating speed (BV / TV)	Maximum operating speed (BQ / HQ / TQ)
Industrial	Mobile	cc/rev	l/min	bar	bar			
V01-02	A01-02	7,2	10,4	210	210	600	1800	2700
V01-05	A01-05	18,0	26,1	210	210	600	1800	2700
V01-08	A01-08	27,4	39,4	210	210	600	1800	2700
V01-09	A01-09	30,1	44,1	210	210	600	1800	2700
V01-11	A01-11	36,4	52,6	210	210	600	1800	2700
V01-12	A01-12	39,5	58,7	160	160	600	1800	2700
V01-14	A01-14	45,9	69,6	140	140	600	1800	2700
V02-12	A02-12	40,1	58,8	175	210	600	1800	2700
V02-14	A02-14	45,4	65,7	175	210	600	1800	2700
V02-17	A02-17	55,2	80,2	175	210	600	1800	2500
V02-19	A02-19	60,0	88,7	175	210	600	1800	2500
V02-21	A02-21	67,5	99,8	175	210	600	1800	2500
	A03-24	78,3	115,3	-	210	600	-	2500
	A03-28	91,2	131,8	-	210	600	-	2500
V04-21	A04-21	69,0	101,4	175	210	600	1800	2500
V04-25	A04-25	81,6	120,1	175	210	600	1800	2500
V04-30	A04-30	97,7	141,2	175	210	600	1800	2500
V04-35	A04-35	112,7	167,2	175	210	600	1800	2400
V04-38	A04-38	121,6	177,3	175	210	600	1800	2400
V05-42	A05-42	138,6	203,4	175	175	600	1800	-
V05-47	A05-47	153,5	222,7	175	175	600	1800	-
V05-50	A05-50	162,2	234	175	175	600	1800	-
V05-57	A05-57	183,4	267	175	175	600	1800	-
V05-60	A05-60	193,4	285	175	175	600	1800	-



## B1 & B2 Series Shaft Dimensions



Pump Type	Geometric displacement cc/rev	Rated capacity at 1500 rpm & 7 Bar l/min	Maximum pressure with mineral oil bar	Maximum Pressure			Speed Range (rpm)		Minimum Operating Speed (Mineral Oil)	Maximum Operating Speed (Mineral Oil)
				Synthetic Fluid bar	Water - Glycol bar	Water-in-oil emulsion bar	Synthetic fluid, Water - Glycol, Water-in-oil emulsion			
							min.	max.		
B1G10	3.29	4.70	175	140	126	105	650	1800	650	4800
B1G15	5.50	7.86	175						650	4800
B1G20	6.53	9.40	175						650	4500
B1G30	9.82	14.20	175						650	4000
B1G40	13.10	18.90	175						650	3400
B1G50	16.39	23.60	175						650	3200
B1G60	19.50	28.40	150						650	3000
B1G70	22.80	33.10	140						650	2800
B2G06	19.50	28.39	175	140	125	110	600	1800	450	3000
B2G07	22.78	33.11	175						450	3000
B2G08	26.55	37.85	175						450	3000
B2G09	29.66	42.57	175	140	125	110	600	1800	450	2800
B2G11	36.38	52.04	175	125	110	95	600	1500	450	2800
B2G12	39.00	56.77	150						450	2500
B2G13	42.44	61.50	140						450	250

## BV Series Vane Pump

The BV series is available in four versions of single pump (from 10 to 285 l/min at 1500 rpm) and six versions of double pump (from 68 to 462 l/min at 1500 rpm), with maximum powers of over 225 kW. The BV series pumps are extremely compact and are supplied with ISO norm mechanical couplings and SAE norm hydraulic fittings. This makes them very easy to install and guarantees their interchangeability with other similar pumps.



## BQ Series Vane Pump

The BQ series is available in five versions of single pump (from 10 to 285 l/min at 1500 rpm) and seven versions of double pump (from 68 to 462 l/min at 1500 rpm), with maximum powers of over 225 kW. The BQ series pumps are extremely compact and are supplied with ISO norm mechanical couplings and SAE norm hydraulic fittings for easy installation and guarantees their interchangeability with other similar pumps.



## TQ & TV Series Vane Pump

Thru-drive pumps save installation space and cost by eliminating double shaft extension electric motors or by reducing the number of motors and drive couplings.

Furthermore thru-drive models provide valuable circuit design flexibility, such as having the vane pump coupled with other types of pumps, both fixed and variable displacement, on a single input drive.

The B&C thru-drive pumps are available in TQ and TV versions. The ten vane TQ type is particularly suitable for applications subject to sudden peaks of pressure, while the twelve vane TV model is specifically designed to meet very low noise requirements.



## HQ Series Vane Pump

The HQ series is available in 2 versions of single pump (from 58 to 132 l/min at 1500 rpm) and two versions of double pump (from 69 to 200 l/min at 1500 rpm) with maximum powers of over 103 kW.

The pumps are extremely compact and are supplied with different types of either ISO or UNI norm mounting for the direct coupling with PTO and SAE norm hydraulic fittings. That, together with the possibility to orientate the inlet and outlet ports, makes the HQ pumps very easy to install and guarantees their interchangeability with other types of pumps.



## B1 & B2 Series Vane Pump

B1 and B2 pumps combine versatility, reliability, high long-term volumetric efficiency and low noise, with low running costs to offer a valid alternative to other types of pump for both industrial and mobile use, particularly where noise level must be kept low. B1 pumps are available in eight different versions (from 5 to 33 l/min at 1500 rpm), with maximum power of up to 18 kW; B2 pumps are available in seven different versions (from 28 to 62 l/min at 1500 rpm) with maximum power of up to 27 kW. Both are supplied with different mechanical and hydraulic connections, for extremely simple installation and complete interchangeability with other types of pump.



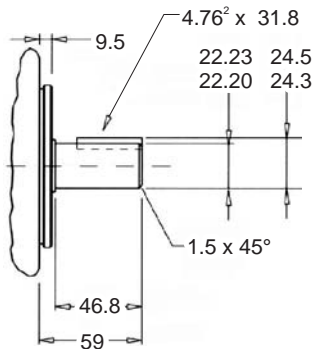
# Cartridge to Pump Options

Cartridge Part No.	Pump Ref:-			Cartridge Part No.	Tandem Pump Ref:-													
	BV	TV			BV21		BV41		BV42		BV51		BV52		BV54			
					Shaft End	Cover End	Shaft End	Cover End	Shaft End	Cover End	Shaft End	Cover End	Shaft End	Cover End	Shaft End	Cover End		
V01-02	BV01.G02			V01-02		*					*							
V01-05	BV01.G05			V01-05		*					*							
V01-08	BV01.G08			V01-08		*					*							
V01-09	BV01.G09			V01-09		*					*							
V01-11	BV01.G11			V01-11		*					*							
V01-12	BV01.G12			V01-12		*					*							
V01-14	BV01.G14			V01-14		*					*							
V02-12	BV02.G12	TV02.*.12		V02-12	*					*			*					
V02-14	BV02.G14	TV02.*.14		V02-14	*					*			*					
V02-17	BV02.G17	TV02.*.17		V02-17	*					*			*					
V02-19	BV02.G19	TV02.*.19		V02-19	*					*			*					
V02-21	BV02.G21	TV02.*.21		V02-21	*					*			*					
V04-21	BV04.G21	TV04.*.21		V04-21		*		*							*			
V04-25	BV04.G25	TV04.*.25		V04-25		*		*							*			
V04-30	BV04.G30	TV04.*.30		V04-30		*		*							*			
V04-35	BV04.G35	TV04.*.35		V04-35		*		*							*			
V04-38	BV04.G38	TV04.*.38		V04-38		*		*							*			
V05-42	BV05.G42	TV05.*.42		V05-42						*		*		*				
V05-47	BV05.G47	TV05.*.47		V05-47						*		*		*				
V05-50	BV05.G50	TV05.*.50		V05-50						*		*		*				
V05-57	BV05.G57	TV05.*.57		V05-57						*		*		*				
V05-60	BV05.G60	TV05.*.60		V05-60						*		*		*				
Cartridge Part No.	Pump Ref:-			Cartridge Part No.	Tandem Pump Ref:-													
	BQ	HQ	TQ		BQ21 / HQ21		BQ31 / HQ31		BQ41		BQ51		BQ42		BQ52		BQ54	
					Shaft End	Cover End	Shaft End	Cover End	Shaft End	Cover End	Shaft End	Cover End	Shaft End	Cover End	Shaft End	Cover End	Shaft End	Cover End
A01-02	BQ01.G02			A01-02		*		*		*		*						
A01-05	BQ01.G05			A01-05		*		*		*		*						
A01-08	BQ01.G08			A01-08		*		*		*		*						
A01-09	BQ01.G09			A01-09		*		*		*		*						
A01-11	BQ01.G11			A01-11		*		*		*		*						
A01-12	BQ01.G12			A01-12		*		*		*		*						
A01-14	BQ01.G14			A01-14		*		*		*		*						
A02-12	BQ02.G12	HQ02.*.12	TQ02.*.12	A02-12	*							*		*				
A02-14	BQ02.G14	HQ02.*.14	TQ02.*.14	A02-14	*							*		*				
A02-17	BQ02.G17	HQ02.*.17	TQ02.*.17	A02-17	*							*		*				
A02-19	BQ02.G19	HQ02.*.19	TQ02.*.19	A02-19	*							*		*				
A02-21	BQ02.G21	HQ02.*.21	TQ02.*.21	A02-21	*							*		*				
A03-24	BQ03.G24	HQ03.G24		A03-24		*												
A03-28	BQ03.G28	HQ03.G28		A03-28		*												
A04-21	BQ04.G21		TQ04.*.21	A04-21				*		*		*		*		*		
A04-25	BQ04.G25		TQ04.*.25	A04-25				*		*		*		*		*		
A04-30	BQ04.G30		TQ04.*.30	A04-30				*		*		*		*		*		
A04-35	BQ04.G35		TQ04.*.35	A04-35				*		*		*		*		*		
A04-38	BQ04.G38		TQ04.*.38	A04-38				*		*		*		*		*		
A05-42	BQ05.G42		TQ05.*.42	A05-42						*		*		*		*		
A05-47	BQ05.G47		TQ05.*.47	A05-47						*		*		*		*		
A05-50	BQ05.G50		TQ05.*.50	A05-50						*		*		*		*		
A05-57	BQ05.G57		TQ05.*.57	A05-57						*		*		*		*		
A05-60	BQ05.G60		TQ05.*.60	A05-60						*		*		*		*		

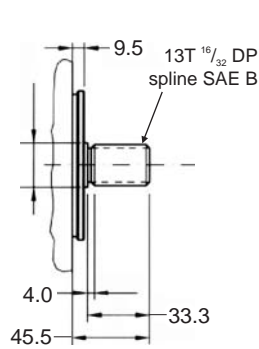


### BV & BQ Series Shaft Dimensions

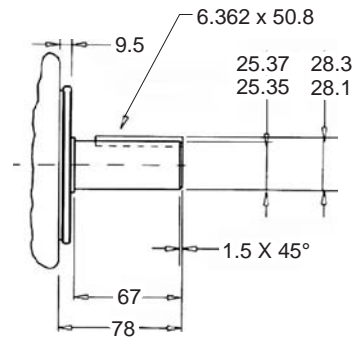
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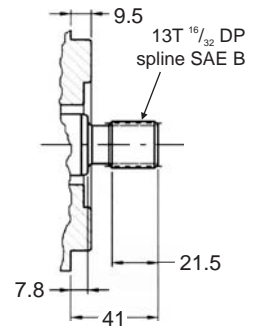
**Shaft 01**



**Shaft 11**



**Shaft 86**



**Shaft 90**

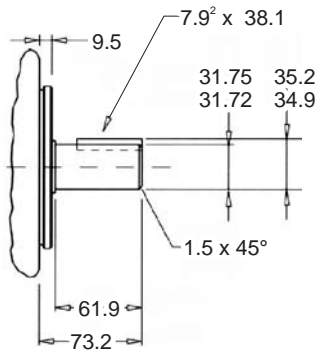
Single pumps BV 01 01 BV 02 01	Single pumps BV 01 11 BV 02 11	Single pumps BV 02 86	Single pumps BV 01 90 BV 02 90
Single pumps BQ 01 01 BQ 02 01 BQ 03 01	Single pumps BQ 01 11 BQ 02 11 BQ 03 11	Single pumps BQ 02 86 BQ 03 86	Single pumps BQ 01 90 BQ 02 90 BQ 03 90
Double pumps BV 21 01	Double pumps BV 21 11	Double pumps BV 21 86	Double pumps BV 21 90
Double pumps BQ 21 01 BQ 31 01	Double pumps BQ 21 11 BQ 31 11	Double pumps BQ 21 86 BQ 31 86	Double pumps BQ 21 90 BQ 31 90

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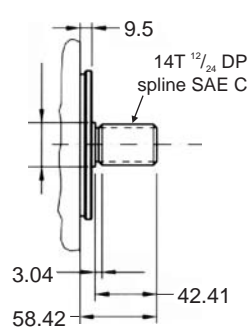


### BV & BQ Series Shaft Dimensions

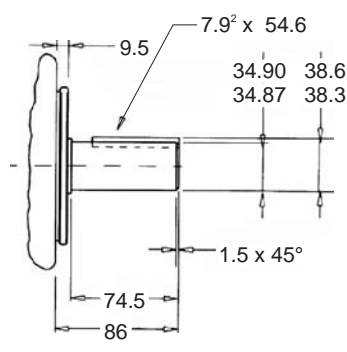
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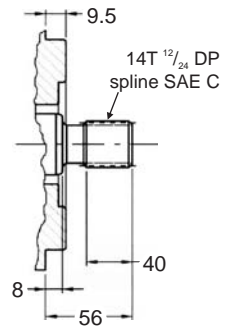
**Shaft 01**



**Shaft 11**



**Shaft 86**



**Shaft 90**

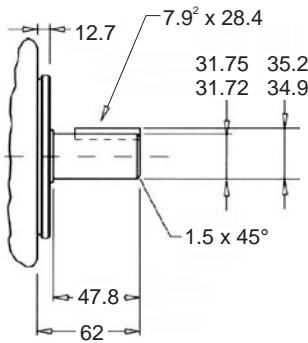
Single pumps BV 04 01	Single pumps BV 04 11	Single pumps BV 04 86	Single pumps BV 04 90
Single pumps BQ 04 01	Single pumps BQ 04 11	Single pumps BQ 04 86	Single pumps BQ 04 90
Double pumps BV 41 01 BV 42 01	Double pumps BV 41 11 BV 42 11	Double pumps BV 41 86 BV 42 86	Double pumps BV 41 90 BV 42 90
Double pumps BQ 41 01 BQ 42 01	Double pumps BQ 41 11 BQ 42 11	Double pumps BQ 41 86 BQ 42 86	Double pumps BQ 41 90 BQ 42 90

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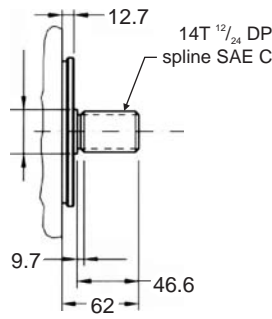


### BV & BQ Series Shaft Dimensions

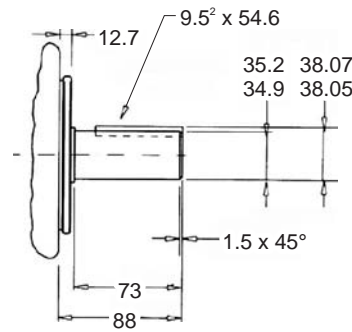
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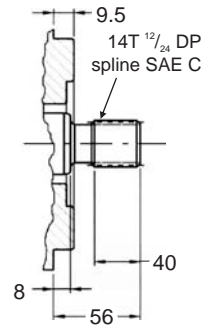
**Shaft 01**



**Shaft 11**



**Shaft 86**



**Shaft 90**

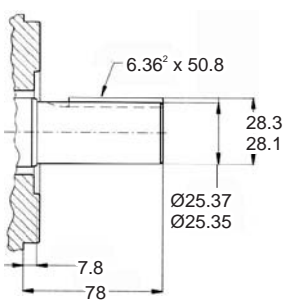
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Single pumps BQ 05 01	Single pumps BQ 05 11	Single pumps BQ 05 86	Single pumps BQ 05 90
Double pumps BV 51 01 BV 52 01 BV 54 01	Double pumps BV 51 11 BV 52 11 BV 54 11	Double pumps BV 51 86 BV 52 86 BV 54 86	Double pumps BV 51 90 BV 52 90 BV 54 90
Double pumps BQ 51 01 BQ 52 01 BQ 54 01	Double pumps BQ 51 11 BQ 52 11 BQ 54 11	Double pumps BQ 51 86 BQ 52 86 BQ 54 86	Double pumps BQ 51 90 BQ 52 90 BQ 54 90

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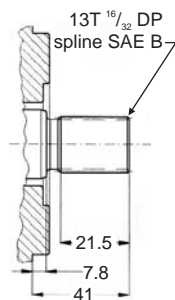


### TQ/TV Series Shaft Dimensions

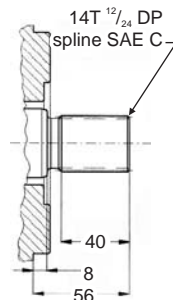
Flange mounting: SAE B2 (101.6<sup>JB</sup>)



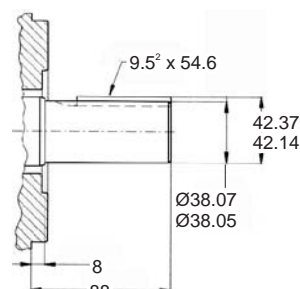
**Shaft 203**



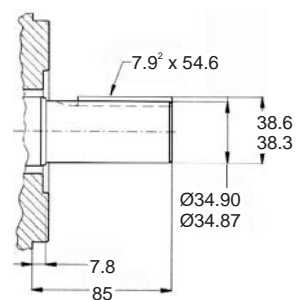
**Shaft 297**



**Shaft 297**



**Shaft 203**



**Shaft 203**

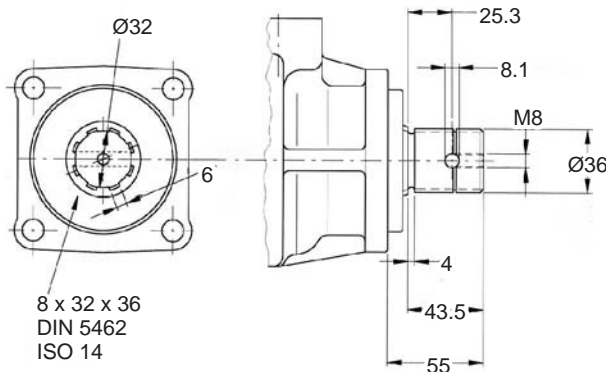
TQ 02 203 TV 02 203	TQ 02 297 TV 02 297	TQ 04 297 TQ 05 297 TV 04 297 TV 05 297	TQ 05 203 TV 05 203	TQ 04 203 TV 04 203
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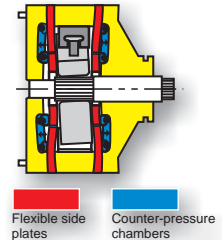
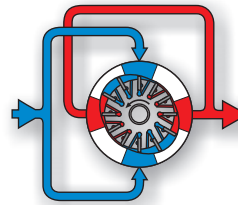
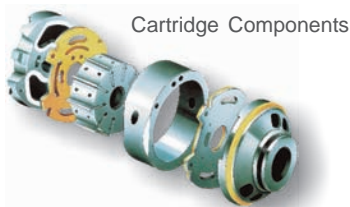
## HQ Series Shaft Dimensions

Flange mounting: ISO 4146 (80<sup>th</sup>)



HQ 02 50 & HQ 03 50 & HG 21 50 & HG 31 50

For further information please contact **jbj Techniques Ltd technical office**, telephone: **01737 767493** or email: **info@jbj.co.uk**



**Versatility, power, compactness and low running costs** are the main characteristics of the latest pump product release available from jbj Techniques Limited. All components subject to wear are contained within a replaceable cartridge which allows **inspection and maintenance without disconnecting the pump** from the circuit, thereby drastically reducing system down time.

The cartridge consists of a rotor, vanes and inserts, a cam ring, two flexible plates and two covers. During operation the rotor is driven via a splined shaft coupled to the drive ring. As the rotational speed increases, centrifugal forces, combined with the pressure generated behind the vanes, extend the vanes outwards where they follow the profile of the cam ring with sufficient contact pressure to ensure adequate hydraulic sealing. The two opposed pumping chambers, formed by the elliptical profile of the cam, cancel out radial loads on the shaft bearings, thus giving **extremely long working life**.

The vane pumps are designed to meet the requirements of the most varied industrial and mobile applications. In fact, as well as their proven high reliability and **excellent volumetric efficiency** in all working conditions, they operate with particularly **low noise levels**. This is made possible by the special profile of the cam ring and the use of a 12 vane rotor that reduces the amplitude of the supply pressure pulses, thereby reducing induced vibration.

[www.jbj.co.uk/vanepumps.html](http://www.jbj.co.uk/vanepumps.html)

jbj Techniques Ltd provide a diverse range of mechanical drive & transmission solutions to industrial markets including design engineering, product supply and after sales service.

An experienced and dedicated team of technical sales engineers are on hand to work with customers and deliver results.

The markets where jbj operate are tough and time sensitive. In such circumstances customers need reliable solution partners, people who are conscious of deadlines, innovative in design and always willing to seek the best solution for the customers' needs.

On all counts, jbj Techniques Limited deliver. From specification, through technical advice, manufacture and support, together with our extensive product database, jbj Techniques provide a comprehensive and valued service to the power transmission and hydraulic industries.

## Vane pumps provide versatility, power, compactness and low running costs.

### Drastically reduce expensive machine down time.

All the components subject to wear within these vane pumps are contained in a cartridge unit that can be easily removed for inspection and/or replacement without disconnecting the pump from the circuit, drastically reducing expensive machine down time.

The cartridge contains a rotor, vanes and inserts, a cam ring, two flexible plates and two covers. During operation the rotor is driven by a splined shaft coupled to the drive unit. As the rotation speed increases, centrifugal forces, in combination with the pressure generated behind the vanes, push the vanes outwards, where they follow the profile of the cam with a sufficient contact pressure to ensure adequate hydraulic sealing. The two opposed pumping chambers formed by the elliptical profile of the cam cancel out radial loads on the shaft bearings, thereby giving them extremely long lifetimes.

The design characteristics of these vane pumps make them particularly suited to applications in the mobile field. The special design of the flexible plates enables any thermal expansion in the rotor to be compensated for and to adequately cope with any sudden change in pressure. Furthermore, the counter-pressure chambers positioned between the flexible plates and the cartridge covers balance the internal pressure; this ensures that the correct clearance between the rotor and the flexible plates is always maintained so guaranteeing maximum volumetric efficiency.

The versatility of these vane pumps enables them to meet the requirements of the most varied industrial applications. In fact, as well as their proven high reliability and excellent volumetric efficiency in all working conditions, they operate with particularly low noise levels. This is made possible by the special profile of the cam ring and the use of a 12 vane rotor that reduces the amplitude of the supply pressure pulses, thereby reducing induced vibrations.

These vane pumps are extremely compact and are supplied with ISO norm mechanical couplings and SAE norm hydraulic fittings. This makes them very easy to install and guarantees their interchangeability with other similar pumps (eg. Vickers, Caterpillar, Denison).

More detailed technical information is available in the catalogues of the standard B & C range of vane pumps available from jbj Techniques Limited.

