NO.119

Bicycle Tire Valve Threads

【Question】

I will be manufacturing two different types of bicycle parts with "5V2" and "CTV5-36" threads. Can you please tell what the difference between these two threads?

【Answer】

"5V2" and "CTV5-36" threads are specified in "JIS D 9422 Bicycle Tire Valve Threads".
They have a similar major diameter (about φ5.3), but there is a difference in application.
There are two types of hand taps for bicycle tire valve threads, HT CTV P2 5V2 and HT CTV P3 CTV5-36 and both have 1.5P chamfer.

【Reference info】

Bored hole size
for Bicycle Tire Valve Threads

Nominal Size	Minor dia of internal threads		Hole size
	Max.	Min.	
5V2	4.600	4.400	4.55
6V1	5.540	5.440	5.52

Unit: mm

Nominal Size	Minor dia of internal threads		Hole size
	Max.	Min.	
CTV5-36	4.732	4.630	4.71
CTV5-24	4.214	3.954	4.15
CTV8-32	7.192	7.040	7.15
CTV8-30	7.344	7.183	7.30

Bicycle Tire Valve Threads are divided into two major groups and 6 sizes in total.
There are 4 sizes in the one group, CTV5-36, CTV5-24, CTV8-32, and CTV8-30, which are used for VEM, VER, VAM, and VAR valves. There are 2 sizes in the other group, 5V2 and 6V1, which are used for FM and VFR valves.

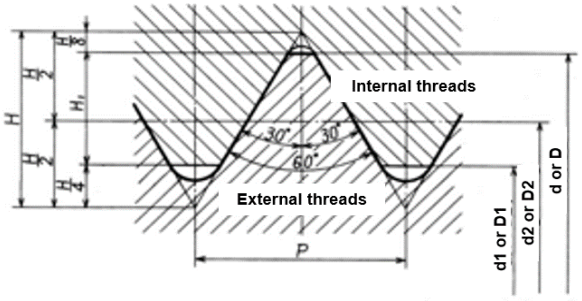
≪Supplementary Explanation≫
The symbols indicating the type of valve is classified and labeled according to the air sealing structure and the method of joining it to the tube.
The first letter "V" indicates that it is for valves.

The next two letters are a symbol for the air sealing structures, (English style valve = E), (American style valve = A), (French style valve = F), and a symbol for the methods of joining the tube, (Metal base = M) and (Rubber base = R).

NO.119

Bicycle Tire Valve Threads

Basic profile and Tolerance for Bicycle Tire Valve Threads (CTV)



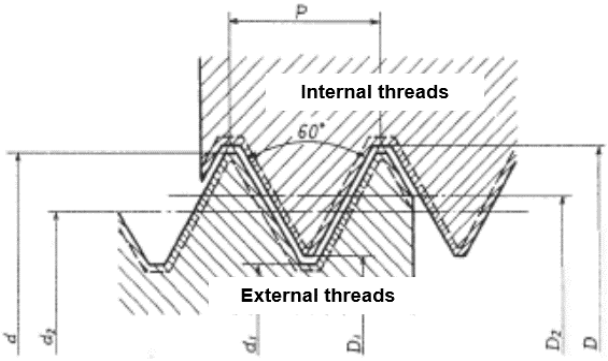
Unit: mm

Nominal Size	Pitch	External threads					
		Major Dia.(d)		Pitch Dia.(d_2)		Minor Dia.(d_1)	
		Max	Min	Max	Min	Max	Min
CTV5-36	0.7056	5.249	5.038	4.791	4.675	4.383	4.216
CTV5-24	1.0583	5.046	4.771	4.359	4.222	3.748	3.535
CTV8-32	0.7938	7.762	7.536	7.246	7.120	6.788	6.605
CTV8-30	0.8466	7.963	7.726	7.413	7.284	6.924	6.734

Nominal Size	Pitch	Internal threads					
		Major Dia.(D)		Pitch Dia.(D_2)		Minor Dia.(D_1)	
		Max	Min	Max	Min	Max	Min
CTV5-36	0.7056	No regulation *1	No regulation *1	5.022	4.872	4.732	4.630
CTV5-24	1.0583			4.591	4.413	4.214	3.954
CTV8-32	0.7938			7.538	7.384	7.192	7.040
CTV8-30	0.8466			7.718	7.550	7.344	7.183

*1: As a rule, there should be some gap between the root of the internal thread and the maximum major diameter of the external thread.

Basic profile and Tolerance for Bicycle Tire Valve Threads（5V2･6V1)



Unit: mm

Nominal Size	Pitch	External threads			
		Major Dia.(d)		Minor Dia.(d_1)	
		Max	Min	Max	Min
5V2	1.058	5.220	5.040	4.200	–
6V1	0.8	6.030	5.830	5.385	–

Nominal Size	Pitch	Internal threads			
		Major Dia.(D_1)		Minor Dia.(D)	
		Max	Min	Max	Min
5V2	1.058	–	5.370	4.600	4.400
6V1	0.8	–	6.160	5.540	5.440