

U-cup type 9020N NBR



Characteristics

Type: 9020N

Principle of operation: Single acting

Max. operating pressure: 150 bar

Maximum speed: 0.5 m/s

Application

- Construction machinery , fork-lift trucks , injection moulding machines , agricultural machinery , cranes and standard cylinders.

Technical Information

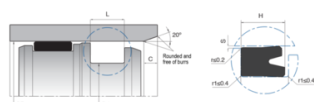
- Superior sealing performance
- Economic sealing and guiding solution
- Simple groove design , one-piece piston possible
- Long service life
- Simple snap installation

Operating Principle

- Easily assembled into one-piece piston because the back-up rings and guide rings are been produced in split forms. It is very important that the assembly tools must be of soft material and have no sharp edges. Before installation the sealing element must be oiled with system oil.

Options

- For special applications that require high temperatures , piston seal is manufactured in FKM and PTFE material.



OPERATING CONDITIONS			
MEDIA	Mineral oils (DIN 51524)	HFA and HFB	HFC
TEMPERATURE	from -30°C till +105°C	from +5°C till +60°C	from -30°C till +60°C
PRESSURE	max. 400 Bar	max. 400 Bar	max. 400 Bar
SPEED	max. 0.5 m/s	max. 0.5 m/s	max. 0.5 m/s
Note: The above data are maximum values and cannot be used at the same time.			

SURFACE ROUGHNESS	Ra	Rmax
Sliding Surface	max. 0.4 µm	max. 4.0 µm
Groove Base	max. 1.6 µm	max. 6.3 µm
Groove Flanks	max. 3.2 µm	max. 16 µm
Note: It is recommended to have 50% to 90% of the working surface material contact area value.		

Bore diameter	Groove diameter	Groove width	Seal height	Material seal	Temperature range	Article
mm	mm	mm	mm		°C	Max. 200 articles in the table
6	2.5	5	4.5	NBR	-30 / 105	14408804
7.5	4	2.5	2	NBR	-30 / 105	14408805
9	4	4	3.5	NBR	-30 / 105	14408806
9	4	7	6	NBR	-30 / 105	14408807
10	5	7.5	6.5	NBR	-30 / 105	14408808
12	5	8	7	NBR	-30 / 105	14408812
12	6	4.5	4	NBR	-30 / 105	14408813
12	7	3.05	2.55	NBR	-30 / 105	14408809
12.5	4.5	4.5	4	NBR	-30 / 105	14408810
12.7	6.35	5.2	4.76	NBR	-30 / 105	14408811
13.8	8.6	3.3	2.8	NBR	-30 / 105	14408814
14	6	7	6	NBR	-30 / 105	14408818
14	6	9	8	NBR	-30 / 105	14408815

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mm	mm	mm	mm		°C	Max. 200 articles in the table
14	8	5	4.5	NBR	-30 / 105	14408816
14.28	7.93	5.26	4.76	NBR	-30 / 105	14408817
15	9	9	8	NBR	-30 / 105	14408819
16	6	11	10	NBR	-30 / 105	14408820
16	8	6.5	5.5	NBR	-30 / 105	14408825
16	9	6.5	5.5	NBR	-30 / 105	14408823
16	10	3.05	2.55	NBR	-30 / 105	14408826
16	10	4.5	4	NBR	-30 / 105	14408821
16	10	6.5	5.5	NBR	-30 / 105	14408822
16	10	9	8	NBR	-30 / 105	14408824
17.46	12.05	3.5	3.17	NBR	-30 / 105	14408827
19.05	12.7	3.5	3.17	NBR	-30 / 105	14408828
20	12	6.5	5.5	NBR	-30 / 105	14408832
20	14	3.2	2.7	NBR	-30 / 105	14408831
20	14	4.7	4.2	NBR	-30 / 105	14408830
20	14	6.5	5.5	NBR	-30 / 105	14408829
20.63	14.28	7	6.35	NBR	-30 / 105	14408833
22	10	9	8	NBR	-30 / 105	14408835
22	13	8	7	NBR	-30 / 105	14408834
22	16	4.5	4	NBR	-30 / 105	14408838
22	16	6.5	5.5	NBR	-30 / 105	14408837
22.22	12.7	7	6.35	NBR	-30 / 105	14408836
24	16	10	9	NBR	-30 / 105	14408839
25	15	6	5	NBR	-30 / 105	14408844
25	17	6.5	5.5	NBR	-30 / 105	14408845
25	18	6	5	NBR	-30 / 105	14408840
25	19	3.5	3	NBR	-30 / 105	14408841
25	19	7	6	NBR	-30 / 105	14408842
25.4	15.87	7	6.35	NBR	-30 / 105	14408843
26	18	6	5	NBR	-30 / 105	14408847
26	18	6.5	5.5	NBR	-30 / 105	14408848
26	18	8	7	NBR	-30 / 105	14408846
26.99	17.46	7	6.35	NBR	-30 / 105	14408849
28	16	10	9	NBR	-30 / 105	14408850
28.57	19.05	7	6.35	NBR	-30 / 105	14408851
30	15	9	8	NBR	-30 / 105	14408855
30	15	11	10	NBR	-30 / 105	14408854
30	20	8	7	NBR	-30 / 105	14408853
30	22	7	6	NBR	-30 / 105	14408852
31.75	19.05	7	6.35	NBR	-30 / 105	14408856
31.75	19.05	8.7	7.93	NBR	-30 / 105	14408857
32	22	6	5	NBR	-30 / 105	14408860
32	22	8	7	NBR	-30 / 105	14408859
32	24	6.5	5.5	NBR	-30 / 105	14408858
34.92	22.22	7	6.35	NBR	-30 / 105	14408861
35	20	11	10	NBR	-30 / 105	14408866
35	25	7.5	6.5	NBR	-30 / 105	14408862
35	25	8	7	NBR	-30 / 105	14408863
35	25	9	8	NBR	-30 / 105	14408865
35	27	11	10	NBR	-30 / 105	14408864
36	24	7	6	NBR	-30 / 105	14408868
36	28	8	7	NBR	-30 / 105	14408867
36.51	25.4	7	6.35	NBR	-30 / 105	14408869

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Bore diameter	Groove diameter	Groove width	Seal height	Material seal	Temperature range	Article
mm	mm	mm	mm		°C	Max. 200 articles in the table
38	28	8	7	NBR	-30 / 105	14408871
38.1	25.4	8.7	7.93	NBR	-30 / 105	14408870
39	32	6	5	NBR	-30 / 105	14408872
39.69	26.99	7	6.35	NBR	-30 / 105	14408873
40	28	10	9	NBR	-30 / 105	14408877
40	28	11	10	NBR	-30 / 105	14408876
40	30	6	5	NBR	-30 / 105	14408878
40	30	7	6	NBR	-30 / 105	14408875
40	30	8	7	NBR	-30 / 105	14408874
40	32	3.5	3.25	NBR	-30 / 105	14408880
40	32	6	5.5	NBR	-30 / 105	14408879
41.27	30.16	7	6.35	NBR	-30 / 105	14408881
42.86	30.16	10.5	9.52	NBR	-30 / 105	14408882
43	35	10	9	NBR	-30 / 105	14408883
43	38	4.3	3.8	NBR	-30 / 105	14408884
44.45	28.57	10.5	9.52	NBR	-30 / 105	14408885
44.45	34.92	8	7	NBR	-30 / 105	14408886
45	35	7	6	NBR	-30 / 105	14408889
45	35	8	7	NBR	-30 / 105	14408890
45	37	8	7	NBR	-30 / 105	14408888
45	38	7	6	NBR	-30 / 105	14408887
47.62	31.75	8.7	7.93	NBR	-30 / 105	14408891
49.21	35.23	10.5	9.52	NBR	-30 / 105	14408892
50	38	7	6	NBR	-30 / 105	14408895
50	40	6	5	NBR	-30 / 105	14408894
50	40	7	6	NBR	-30 / 105	14408898
50	40	8	7	NBR	-30 / 105	14408893
50	42	11	10	NBR	-30 / 105	14408896
50.8	41.27	5.3	4.76	NBR	-30 / 105	14408897
50.8	41.27	7.8	7.14	NBR	-30 / 105	14408899
52	42	6	5	NBR	-30 / 105	14408900
53.97	38.1	10.5	9.52	NBR	-30 / 105	14408901
53.97	41.27	10.5	9.52	NBR	-30 / 105	14408902
55	45	8	7	NBR	-30 / 105	14408903
55	45	8.5	7.5	NBR	-30 / 105	14408905
55	45	11	10	NBR	-30 / 105	14408904
56	46	8	7	NBR	-30 / 105	14408906
57.15	41.27	8.93	7.93	NBR	-30 / 105	14408907
57.15	41.27	10.5	9.52	NBR	-30 / 105	14408908
57.15	44.45	7	6.35	NBR	-30 / 105	14408909
60	44	13	12	NBR	-30 / 105	14408910
60	50	7	6	NBR	-30 / 105	14408915
60	50	8	7	NBR	-30 / 105	14408912
60	50	8.3	7.3	NBR	-30 / 105	14408913
60	50	11	10	NBR	-30 / 105	14408911
60.32	47.62	7	6.35	NBR	-30 / 105	14408914
62	52	8	7	NBR	-30 / 105	14408916
63	48	13.2	12	NBR	-30 / 105	14408924
63	50	11	10	NBR	-30 / 105	14408919
63	53	4.8	4.3	NBR	-30 / 105	14408918
63	53	7	6	NBR	-30 / 105	14408917
63	53	8	7	NBR	-30 / 105	14408920
63.5	45.7	9.8	8.85	NBR	-30 / 105	14408922

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mm	mm	mm	mm		°C	Max. 200 articles in the table
63.5	47.62	10.5	9.52	NBR	-30 / 105	14408923
63.5	53.97	7	6.35	NBR	-30 / 105	14408921
65	55	8	7	NBR	-30 / 105	14408925
66.67	50.8	9.8	8.85	NBR	-30 / 105	14408926
69.85	50.8	14	12.7	NBR	-30 / 105	14408927
69.85	53.97	8.7	7.93	NBR	-30 / 105	14408928
70	50	15	14	NBR	-30 / 105	14408929
70	58	9.5	8.5	NBR	-30 / 105	14408931
70	60	8	7	NBR	-30 / 105	14408933
70	60	11	10	NBR	-30 / 105	14408930
70	62	9	8	NBR	-30 / 105	14408932
73.02	63.5	6	5.56	NBR	-30 / 105	14408934
75	63	9.5	8.5	NBR	-30 / 105	14408936
75	65	8.5	7.5	NBR	-30 / 105	14408935
76.2	58.04	9.6	8.73	NBR	-30 / 105	14408937
79.37	66.67	7.35	6.35	NBR	-30 / 105	14408938
80	64	9	8	NBR	-30 / 105	14408942
80	64	13	12	NBR	-30 / 105	14408944
80	65	11	10	NBR	-30 / 105	14408943
80	68	9.5	8.5	NBR	-30 / 105	14408939
80	70	8	7	NBR	-30 / 105	14408940
80	72	13	12	NBR	-30 / 105	14408941
82.55	71.43	7.35	6.35	NBR	-30 / 105	14408945
83	71.9	8.5	7.5	NBR	-30 / 105	14408946
85	73	9.5	8.5	NBR	-30 / 105	14408947
85.72	73.02	10.52	9.52	NBR	-30 / 105	14408948
90	78	9.5	8.5	NBR	-30 / 105	14408949
92.07	76.2	10.52	9.52	NBR	-30 / 105	14408950
95.25	76.99	8.4	7.4	NBR	-30 / 105	14408951
98.42	85.72	10.5	9.52	NBR	-30 / 105	14408952
100	84	9	8	NBR	-30 / 105	14408956
100	85	10	9	NBR	-30 / 105	14408953
100	85	13	12	NBR	-30 / 105	14408958
100	88	9.5	8.5	NBR	-30 / 105	14408955
100	90	4.8	4.3	NBR	-30 / 105	14408960
100	90	7.5	6.5	NBR	-30 / 105	14408959
100	90	8	7.2	NBR	-30 / 105	14408957
100	90	9.5	8.5	NBR	-30 / 105	14408954
101.6	82.55	13.7	12.7	NBR	-30 / 105	14408962
101.6	88.9	10.5	9.52	NBR	-30 / 105	14408961
104.5	86.5	13	12	NBR	-30 / 105	14408963
105	94	9	8	NBR	-30 / 105	14408964
107.95	88.9	13.7	12.7	NBR	-30 / 105	14408965
110	90	16.5	15	NBR	-30 / 105	14408967
110	95	11	10	NBR	-30 / 105	14408966
114.3	103.98	6.85	5.85	NBR	-30 / 105	14408968
120	105	11	10	NBR	-30 / 105	14408969
125	105	13	12	NBR	-30 / 105	14408971
125	105	16	15	NBR	-30 / 105	14408975
125	105	17	16	NBR	-30 / 105	14408972
125	110	11	10	NBR	-30 / 105	14408973
125	115	8.2	7.2	NBR	-30 / 105	14408974
127	101.6	16.87	15.87	NBR	-30 / 105	14408976

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mm	mm	mm	mm		°C	Max. 200 articles in the table
130	110	13	12	NBR	-30 / 105	14408977
130.17	117.5	10.52	9.52	NBR	-30 / 105	14408978
140	120	15	14	NBR	-30 / 105	14408981
140	120	17	16	NBR	-30 / 105	14408979
140	125	11	10	NBR	-30 / 105	14408980
145	130	11	10	NBR	-30 / 105	14408982
146.05	137.9	7.6	6.6	NBR	-30 / 105	14408983
150	135	9	8	NBR	-30 / 105	14408985
160	140	15	14	NBR	-30 / 105	14408986
160	145	11	10	NBR	-30 / 105	14408988
160	145	15	14	NBR	-30 / 105	14408987
170	148	16	15	NBR	-30 / 105	14408989
175	155	15	14	NBR	-30 / 105	14408990
175	165	13	12	NBR	-30 / 105	14408991
180	160	10	9	NBR	-30 / 105	14408992
180	160	15	14	NBR	-30 / 105	14408993
190	170	15	14	NBR	-30 / 105	14408995
200	175	17	16	NBR	-30 / 105	14408996
200	180	14.6	13.6	NBR	-30 / 105	14408998
200	180	15	14	NBR	-30 / 105	14408997
220	200	15	14	NBR	-30 / 105	14408999
250	230	15	14	NBR	-30 / 105	14409002
300	270	13	12	NBR	-30 / 105	14409003
320	295	18	17	NBR	-30 / 105	14409004
330	310	13	12	NBR	-30 / 105	14409005
350	320	21	20	NBR	-30 / 105	14409006
360	330	21	20	NBR	-30 / 105	14409007

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