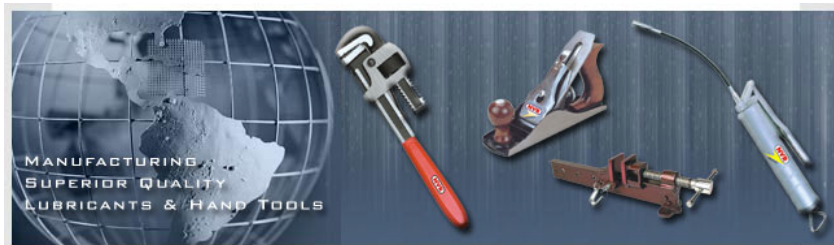




# NVR FORGINGS

An ISO 9001:2000 Certified Company



## SPANNERS

NVR offers wide range of Spanners, forged from high grade Chrome Vanadium Steel using the latest production methods. NVR Spanners made to DIN, ANSI and ISO Standards meets the latest requirements of screw - joint engineering.

### Shearing & Heating of Cropped Piece

- Using highly efficient eccentric presses the blank is cut according to the size of double open end spanner to be forged.
- Then the blank is heated up to the exact pre-selected temperature (1000-1200° C) in the pusher furnace before forging it to its form.



### Hot Forging & Trimming Process

- The red hot cropped piece is pulled out of the furnace with the help of tongs and kept under lower and upper dies to give it a shape under tons of pressure from the blows of the drop hammer.
- Then the trimming process is carried out to remove the surplus steel.



### The Grinding Process

- Using different types of grinding belts of special grain structure the burr on the outer surface of the head & shaft is removed using grinding process.s

### Broaching Operation to Dimensional Accuracy

- This is an important operation to produce the exact size of the jaws.
- The broaching tool is pressed through the forged jaw opening to produce the exact size in case of open end wrenches and the broaching tool is passed through the ring surface to give it profile in case of Combination & ring Spanner.

### Over Drive Broach

- With our constant R & D we have developed the new profile in the ring wrench head.
- In this design the force is applied to the flanks of the bolt heads & not to the corners.
- This type is also suitable even for 50% worn rounded fasteners.



### Hardening & Tempering Process

- Hardening & tempering is done in an automatic shaker hearth furnace in which both hardening & tempering temperature are controlled.
- By this process the structure of steel is made finer. The hardness achieved in this way guarantees the high value in the tools use, the great torque can be transferred, and service life of our tools.



### The Plating Treatment

- Different kinds of surface protection is given to wrenches by the process of plating treatment.
- Here the tool is first degreased carefully, then nickel plated and finally chromium plated.
- At NVR we are proud to produce various following finishes.

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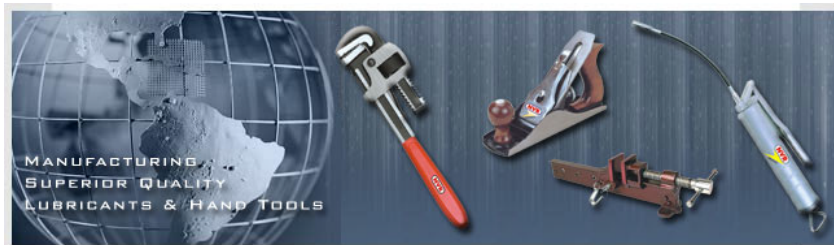
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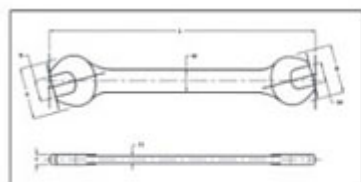
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## NVR-101 Double Ended Open Jaw Spanners (Long Patterned Cold Stamped-Professional)



- DIN 3110, Long Pattern
- Chrome-Vanadium Steel
- Hardened and Tempered
- Each Head Set at 15° Angle
- Chrome Plated, Mirror Polished Head
- Also available in Carbon Steel



**DIN  
3110**



*Also Available In Your Brand*

SIZE MM	LENGTH MM	QTY./CTN. Pcs.	VOLUME Cu. M.
6x7	122	800	.017
8x9	140	600	.018
10x11	157	400	.016
12x13	172	300	.016
14x15	190	200	.018
16x17	205	160	.018
18x19	222	120	.016
20x22	236	100	.017
21x23	250	80	.017
24x26	266	60	.015
24x27	266	60	.016
25x28	280	40	.015
27x32	302	40	.016
30x32	302	40	.016

### METRIC SIZES SETS

SET NO.	No. of Pieces	SIZES - mm	QTY./CTN. Set	VOLUME Cu. M.
6m	6	6x7, 8x9, 10x11, 12x13, 14x15, 16x17	60	.022
8m	8	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22	30	.024
10m	10	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27	20	.029
12m	12	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27, 25x28, 30x32	12	.025
122m	12	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27, 25x28, 30x32	12	.025

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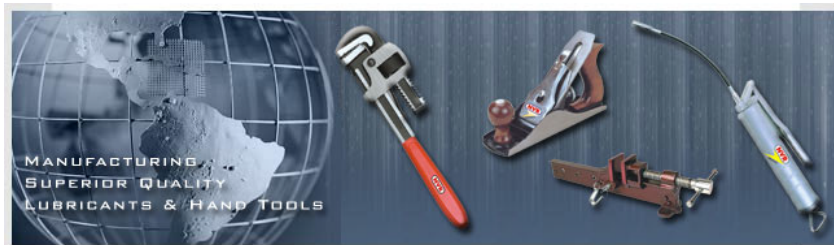
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**NVR**  
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**NVR-102 Double Ended Open Jaw Spanners**  
(Long Patterned Fully Polished-Professional)



*Fully Polished*

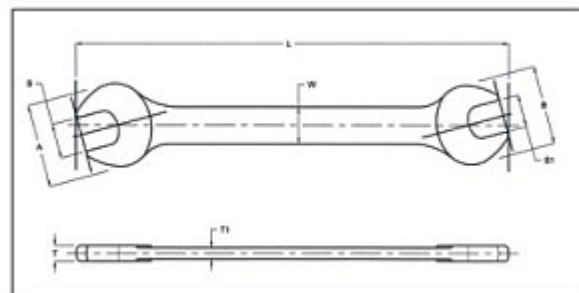
*Elliptical Pattern*

- DIN 3110
- Chrome-Vanadium Steel
- Hardened and Tempered
- Each Head Set at 15° Angle

METRIC SIZES SETS				
SET NO.	No. of Pieces	SIZES - MM	QTY./CTN. Set	VOLUME Cu. M.
6M	6	6x7, 8x9, 10x11, 12x13, 14x15, 16x17	60	.024
8M	8	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22	30	.025
10M	10	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27	20	.030
12M	12	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27, 25x28, 30x32	12	.031
122M	12	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27, 25x28, 30x32	12	.029

SIZE MM	LENGTH MM	QTY./CTN. Pcs.	VOLUME Cu. M.
6x7	122	800	.020
8x9	140	600	.021
10x11	157	400	.022
12x13	172	300	.020
14x15	190	200	.016
16x17	205	160	.019
18x19	222	120	.017
20x22	236	100	.018
21x23	250	80	.017
24x26	266	60	.017
24x27	266	60	.016
25x28	280	40	.014
27x32	302	40	.016
30x32	302	40	.018

*Also Available In Your Brand*



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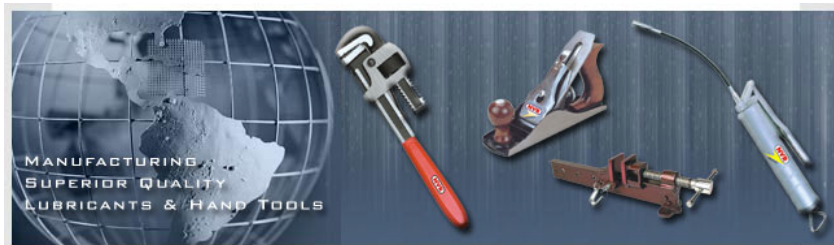
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# NVR FORGINGS

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## NVR-103 Combination Open & Ring End Spanners (Professional)



- DIN 3113, Long Pattern
- Chrome-Vanadium Steel
- Hardened and Tempered
- Chrome Plated Mirror Polished Head
- Also available in Carbon Steel

SIZE		LENGTH MM	QTY./CTN. Pcs.	VOLUME Cu. M.
MM	INCH			
6	1/4	100	1000	.017
7	-	110	1000	.018
8	5/16	120	800	.017
9	-	130	600	.016
10	3/8	140	600	.019
11	7/16	150	500	.018
12	-	160	400	.018
13	1/2	170	300	.018
14	9/16	180	300	.020
15	-	190	200	.017
16	5/8	200	200	.021
17	11/16	210	200	.020
18	-	220	160	.020
19	3/4	230	120	.016
20	-	240	120	.020
21	13/16	250	100	.017
22	7/8	260	100	.019
23	-	270	80	.017
24	15/16	280	80	0.22
25	1	290	60	.021
26	-	300	60	.018
27	1.1/16	310	60	.017
28	1.1/8	320	40	.017
29	-	330	40	.021
30	-	340	40	.020
32	1.1/4	350	40	.022

### METRIC SIZES SETS

SET NO.	NO. OF PIECES	SIZES - mm	QTY./CTN. Set	VOLUME Cu. M.
6m	6	8,9,10,11,13,17	60	.015
8m	8	6,8,10,11,13,14,17,19	40	.015
88m	8	8,9,10,11,13,17,19,21	30	.019
10m	10	10,11,12,13,14,15,16,17,18,19	24	.019
12m	12	6,7,8,9,10,11,12,13,14,17,19,22	24	.019
16m	16	10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,26	8	.016
26m	26	6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,32	4	.016



*Also Available In Your Brand*

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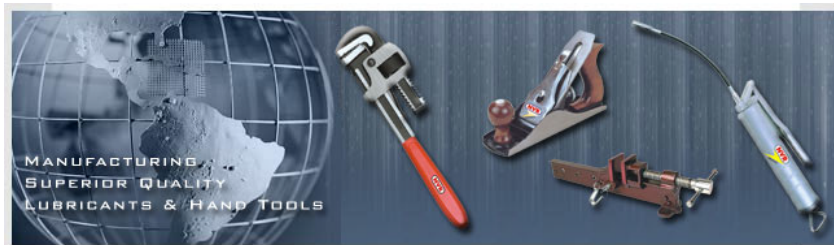
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# NVR FORGINGS

An ISO 9001:2000 Certified Company



## NVR-104 Combination Open & Ring End Spanners (Fully Polished-Professional)



*Fully Polished*

*Elliptical Pattern*

- Drop Forged from Chrome Vanadium Steel
- Hardened and Tempered
- Each Head Set at 15 ° Angle
- Chrome Plated, Fully Mirror Polished



SIZE		LENGTH	QTY./CTN.	VOLUME
MM	INCH	MM	Pcs.	Cu. M.
6	1/4	100	1000	.017
7	-	110	1000	.018
8	5/16	120	800	.017
9	-	130	600	.016
10	3/8	140	600	.019
11	7/16	150	500	.018
12	-	160	400	.018
13	1/2	170	300	.018
14	9/16	180	300	.020
15	-	190	200	.017
16	5/8	200	200	.021
17	11/16	210	200	.020
18	-	220	160	.020
19	3/4	230	120	.016
20	-	240	120	.020
21	13/16	250	100	.017
22	7/8	260	100	.019
23	-	270	80	.017
24	15/16	280	80	.022
25	1	290	60	.021
26	-	300	60	.018
27	1.1/16	310	60	.017
28	1.1/8	320	40	.017
29	-	330	40	.021
30	-	340	40	.020
32	1.1/4	350	40	.022

METRIC SIZE SETS				
NO.	No. of Pieces	SIZES - mm	QTY./CTN. Set	VOLUME Cu. M.
6m	6	8,9,10,11,13,17	60	.015
8m	8	6,8,10,11,13,14,17,19	40	.016
88m	8	8,9,10,11,13,17,19,21	30	.018
10m	10	10,11,12,13,14,15,16,17,18,19	24	.016
12m	12	6,7,8,9,10,11,12,13,14,17,19,22	24	.016
16m	16	10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,26	8	.015
26m	26	6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,32	4	.011



*Also Available In Your Brand*

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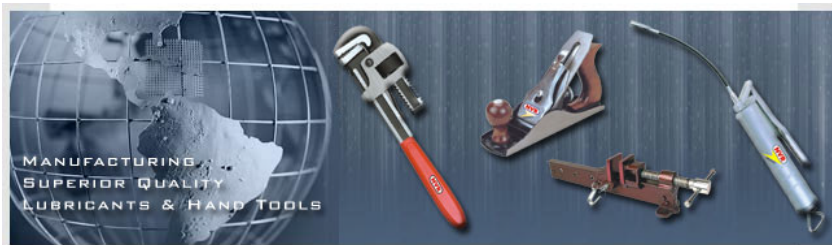
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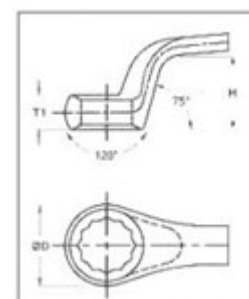


## NVR-105 Bi-Hexagonal Ring Spanners (Deep Offset Cold Stamped-Professional)

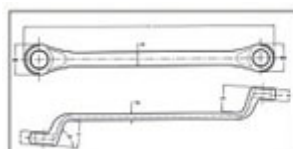


- DIN 838, Long Pattern
- Chrome-Vanadium Steel
- Hardened and Tempered
- Chrome Plated Mirror Polished Head

*Cold Stamped*



SIZE		LENGTH MM	QTY./CTN. Pcs.	VOLUME Cu. M.
MM	INCH			
6x7	1/4x5/16	170	400	.014
8x9	-	180	300	.012
10x11	3/8x7/16	195	240	.015
12x13	-	210	200	.020
14x15	1/2x9/16	225	160	.024
16x17	5/8x11/16	245	120	.019
18x19	3/4x25/36	266	80	.019
20x22	13/16x7/8	285	80	.024
21x23	-	305	60	.021
24x26	-	325	60	.023
24x27	15/16x1	325	60	.023
25x28	-	345	40	.020
27x32	1.1/16x1.1/4	370	40	.024
30x32	-	370	40	.025



*Also Available In Your Brand*

METRIC SIZES SETS				
SET NO.	No. of Pieces	SIZES - mm	QTY./CTN. Set	VOLUME Cu. M.
6m	6	6x7, 8x9, 10x11, 12x13, 14x15, 16x17	40	.038
8m	8	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22	20	.036
10m	10	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27	10	.027
12m	12	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27, 25x28, 30x32	10	.033
122m	12	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27, 25x28, 30x32	10	.029

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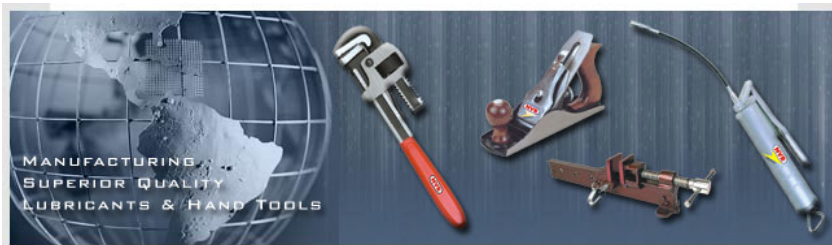
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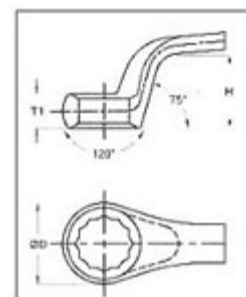
## NVR-106 Bi-Hexagonal Ring Spanners (Deep Offset Fully Polished-Professional)



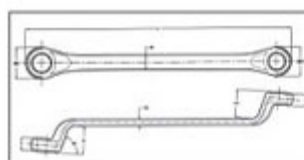
- DIN 838
- Drop Forged from Chrome-Vanadium Steel
- Hardened and Tempered
- Each Head Set at 15° Angle

*Fully Polished*

*Elliptical Pattern*



SIZE		LENGTH MM	QTY./CTN. Pcs.	VOLUME Cu. M.
MM	INCH			
6x7	1/4x5/16	170	400	.014
8x9	-	180	300	.012
10x11	3/8x7/16	195	240	.015
12x13	-	210	200	.020
14x15	1/2x9/16	225	160	.024
16x17	5/8x11/16	245	120	.019
18x19	3/4x25/36	266	80	.019
20x22	13/16x7/8	285	80	.024
21x23	-	305	60	.021
24x26	-	325	60	.023
24x27	15/16x1	325	60	.023
25x28	-	345	40	.020
27x32	1.1/16x1.1/4	370	40	.024
30x32	-	370	40	.025



**DIN  
838**



*Also Available In Your Brand*

SET NO.	No. of Pieces	SIZES - mm	QTY./CTN. Set	VOLUME Cu. M.
6m	6	6x7, 8x9, 10x11, 12x13, 14x15, 16x17	40	.038
8m	8	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22	20	.036
10m	10	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27	10	.027
12m	12	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27, 25x28, 30x32	10	.033
122m	12	6x7, 8x9, 10x11, 12x13, 14x15, 16x17, 18x19, 20x22, 21x23, 24x27, 25x28, 30x32	10	.029

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