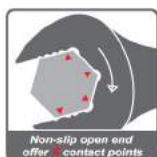


PR-TYPE COMBINATION WRENCH

- Made by heat-treated **Chrome Vanadium Steel** for strength exceeding international specifications.
- Professional plating prevents wrenches from corrosion.
- **15° offset box end** helps to reduce swing obstacles and to minimize knuckle fatigue.
- Superior life-time test.



Specially designed open end gets better nut friction and minimizes slipperiness.



15° offset box end for knuckle clearance.



PR-TYPE COMBINATION WRENCH



Material | Chrome Vanadium Steel
Surface | Mirror / Matt / Micro Satin / Color Electro-deposition / Black Oxide Finish
Feature | Flat Panel
 15° Offset Box End
 12 Point / 6 Point Box
 Regular / Non-slip Open End

Size (inch)	Wt. (g)	L (mm)	Size (mm)	Wt. (g)	L (mm)
1/4	21	124	1"	485	339
9/32	-	129	1-1/16	635	362
5/16	27	136	1-1/8	705	394
3/8	41	149	1-3/16	740	394
7/16	57	168	1-1/4	880	429
1/2	79	180			
9/16	101	193			
5/8	136	207			
11/16	166	227			
3/4	230	250			
25/32	-	260			
13/16	280	271			
7/8	340	295			
15/16	420	317			

PR-TYPE JUMBO COMBINATION WRENCH

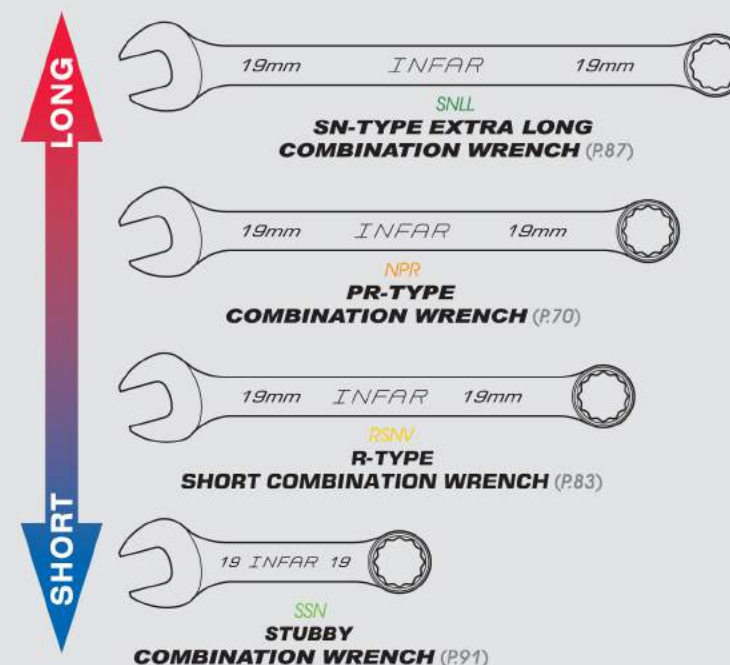


Material | Chrome Vanadium Steel
Surface | Mirror / Matt / Micro Satin / Color Electro-deposition / Black Oxide Finish
Feature | Flat Panel
 15° Offset Box End

Size (inch)	Wt. (g)	L (mm)	Size (mm)	Wt. (g)	L (mm)
1-5/16	1080	470	33	1080	470
1-3/8	1080	470	34	1080	470
1-7/16	1300	510	36	1300	510
1-1/2	1300	510	38	1300	510
1-9/16	1620	550	40	1620	550
1-5/8	1620	550	41	1620	550
1-11/16	1620	550	42	1620	550
1-3/4	1810	612	43	1620	550
1-13/16	1810	612	45	1810	612
1-7/8	2500	650	46	1810	612
2"	2500	650	48	2500	650
2-1/16	4370	700	50	2500	650
2-1/8	4370	700	55	4370	700
2-3/16	4370	700	60	5640	760
2-1/4	4370	700	65	5640	760
2-5/16	4370	700			
2-3/8	5640	760			
2-7/16	5640	760			
2-1/2	5640	760			
2-9/16	5640	760			

LENGTH WISE | FLAT PANEL COMBINATION WRENCH

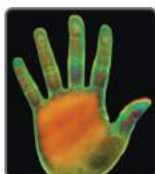
- Choose appropriate length when using in different space.



Size (inch)	L (mm)	L (mm)	L (mm)	L (mm)	Size (mm)	L (mm)	L (mm)	L (mm)	L (mm)
1/4	130 (+4.8%)	124	93 (-25.0%)	84 (-32.3%)	5.5	124			
5/16	148 (+8.8%)	136	103 (-24.3%)	91 (-33.3%)	6	130 (+4.8%)	124	93 (-25.0%)	84 (-32.3%)
3/8	167 (+12.1%)	149	116 (-22.1%)	96 (-35.0%)	7	136 (+5.4%)	129	98 (-24.0%)	
7/16	186 (+10.7%)	168	131 (-22.0%)	100 (-40.5%)	8	148 (+8.8%)	136	103 (-24.3%)	91 (-33.3%)
1/2	207 (+15.0%)	180	147 (-10.3%)	108 (-40.0%)	9	167 (+12.1%)	149	116 (-22.1%)	96 (-35.0%)
9/16	223 (+15.5%)	193	168 (-13.0%)	114 (-40.9%)	10	172 (+6.8%)	161	123 (-23.6%)	96 (-40.4%)
5/8	243 (+17.4%)	207	189 (-8.7%)	122 (-41.1%)	11	186 (+10.7%)	168	131 (-22.0%)	100 (-40.5%)
11/16	261 (+15.0%)	227	207 (-8.8%)	128 (-43.6%)	12	197 (+13.2%)	174	143 (-17.8%)	104 (-40.2%)
3/4	280 (+12.0%)	250	230 (-8.0%)	139 (-44.4%)	13	207 (+15.0%)	180	147 (-18.3%)	108 (-40.0%)
13/16	301 (+11.1%)	271	260 (-4.1%)	146 (-46.1%)	14	223 (+15.5%)	193	168 (-13.0%)	114 (-40.9%)
7/8	318 (+8.0%)	295	280 (-5.1%)	156 (-47.1%)	15	233 (+16.5%)	200	180 (-10.0%)	118 (-41.0%)
15/16	338 (+6.6%)	317		165 (-47.9%)	16	243 (+17.4%)	207	189 (-8.7%)	122 (-41.1%)
1"	355 (+4.7%)	339		175 (-48.4%)	17	261 (+15.0%)	227	207 (-8.8%)	128 (-43.6%)
1-1/16	375 (+3.6%)	362			18	270 (+13.0%)	239	220 (-7.9%)	132 (-44.8%)
1-1/8	414 (+5.1%)	394			19	280 (+12.0%)	250	230 (-8.0%)	139 (-44.4%)
1-3/16	414 (+5.1%)	394			20	290 (+11.5%)	260	260 (-0.0%)	146 (-43.8%)
1-1/4	435 (+1.4%)	429			21	301 (+11.1%)	271	260 (-4.1%)	146 (-40.1%)
					22	318 (+8.0%)	295	280 (-5.1%)	156 (-47.1%)
					23	318 (+8.0%)	295	280 (-5.1%)	156 (-47.1%)
					24	338 (+6.6%)	317		165 (-47.9%)
					25	355 (+4.7%)	339		175 (-48.4%)
					26	355 (+4.7%)	339		175 (-48.4%)
					27	375 (+3.6%)	362		
					28	375 (+3.6%)	362		
					29	414 (+5.1%)	394		
					30	414 (+5.1%)	394		
					32	435 (+1.4%)	429		

PR-TYPE ERGONOMIC COMBINATION WRENCH

- Made by heat-treated **Chrome Vanadium Steel** for strength exceeding international specifications.
- Professional plating prevents wrenches from corrosion.
- **15° offset box end** helps to reduce swing obstacles and to minimize knuckle fatigue.
- Whole piece wrench is forged along with patented **Ergonomic Handle** to reduce the user fatigue.
- Superior life-time test.



Heat spectrum diagram after using ergonomic wrench for two hours.



Heat spectrum diagram after using regular wrench for two hours.



PR-TYPE ERGONOMIC COMBINATION WRENCH

MEETS OR EXCEEDS
A.N.S.I.
STANDARDS

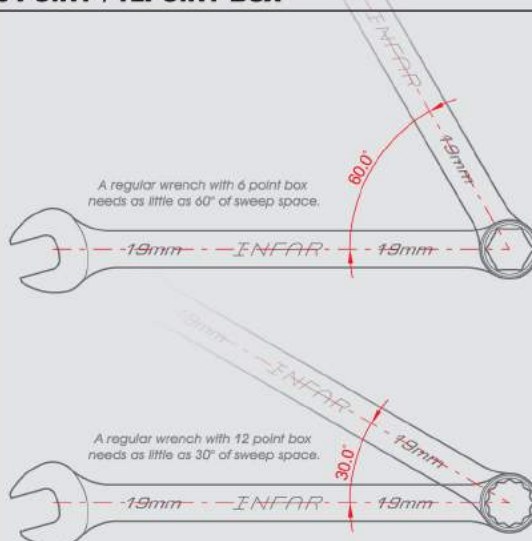


NPRTPT

Material | Chrome Vanadium Steel
Surface | Mirror / Matt / Micro Satin / Color Electro-deposition Finish
Feature | Colorful TPR Ergonomic Handle
15° Offset Box End
12 Point / 6 Point / Spline Box
Regular / Non-slip Open End

Size (inch)	Wt. (g)	L (mm)	Size (mm)	Wt. (g)	L (mm)
1/4	24	124	6	24	124
5/16	32	136	7	26	129
11/32	39	143	8	32	136
3/8	44	149	9	44	149
7/16	64	168	10	64	161
1/2	89	180	11	69	168
9/16	121	193	12	85	174
5/8	153	207	13	89	180
11/16	185	227	14	125	193
3/4	241	250	15	138	200
			16	149	207
			17	185	227
			18	214	239
			19	242	250

FUNCTION INTRODUCTION 6 POINT | 12POINT BOX



PR-TYPE METRIC & INCH COMBINATION WRENCH

- Made by heat-treated **Chrome Vanadium Steel** for strength exceeding international specifications.
- Professional plating prevents wrenches from corrosion.
- **15° offset box end** helps to reduce swing obstacles and to minimize knuckle fatigue.
- One wrench fits **Metric & Inch** Sizes - double the value of the wrench.
- Superior life-time test.



15° offset box end for knuckle clearance.



PR-TYPE METRIC & INCH COMBINATION WRENCH



NPRSPSM

Material | Chrome Vanadium Steel
 Surface | Mirror / Matt / Micro Satin / Color Electro-deposition Finish
 Feature | Flat Panel
 15° Offset Box End
 Spline Box
 Metric & Inch Open End



Each open end fits Metric & Inch Sizes.



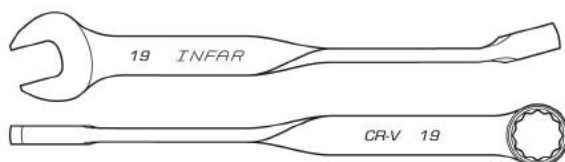
Size (inch/mm)	Wt. (g)	L (mm)
5/16 8	31	136
3/8 10	55	161
7/16 11	57	168
1/2 13	83	180
9/16 14	108	193
5/8 16	140	207
11/16 17	187	227
3/4 19	230	250
13/16 21	280	271
7/8 22	340	295

PR-TYPE TWIST COMBINATION WRENCH

- Made by heat-treated **Chrome Vanadium Steel** for strength exceeding international specifications.
- Professional plating prevents wrenches from corrosion.
- **15° offset box end** helps to reduce swing obstacles and to minimize knuckle fatigue.
- When performing the ratchet actions, the grip of twisting wrench allows more contact area of the palm, bearing less stress for the user.
- Superior life-time test.



15° offset box end for knuckle clearance.



PR-TYPE TWIST COMBINATION WRENCH



NPRX

Material | Chrome Vanadium Steel
 Surface | Mirror / Matt / Micro Satin / Color Electro-deposition Finish
 Feature | Twisted Flat Panel
 15° Offset Box End
 12 Point / 6 Point / Splined Box
 Regular / Non-slip Open End

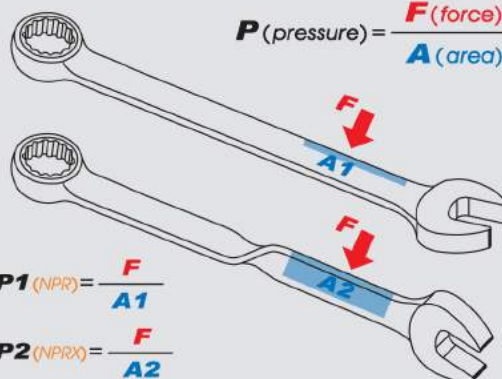
Size (inch)	Wt. (g)	L (mm)
1/4	21	124
9/32	-	129
5/16	27	136
3/8	41	149
7/16	57	168
1/2	79	180
9/16	101	193
5/8	136	207
11/16	166	227
3/4	230	250
25/32	-	260
13/16	280	271
7/8	340	295
15/16	415	317
1"	485	339

Size (mm)	Wt. (g)	L (mm)
6	21	124
7	21	129
8	28	136
9	43	149
10	54	161
11	58	168
12	71	174
13	79	180
14	104	193
15	124	200
16	135	207
17	169	227
18	207	239
19	230	250
20	-	260
21	280	271

FUNCTION INTRODUCTION TWISTED PANEL

- When performing the ratchet actions, the grip of twisting wrench allows more contact area of the palm, bearing less stress for the user.

$$P(\text{pressure}) = \frac{F(\text{force})}{A(\text{area})}$$



$$P1(NPR) = \frac{F}{A1}$$

$$P2(NPRX) = \frac{F}{A2}$$

$$F = P1(NPR) \times A1 \quad F = P2(NPRX) \times A2$$

$$P1(NPR) \times A1 = P2(NPRX) \times A2$$

$$A1 < A2 \Rightarrow P1(NPR) < P2(NPRX)$$

Size (mm)	Wt. (g)	L (mm)
22	335	295
23	340	295
24	410	317
25	485	339
26	485	339

R-TYPE SHORT COMBINATION WRENCH

- Made by heat-treated **Chrome Vanadium Steel** for strength exceeding international specifications.
- Professional plating prevents wrenches from corrosion.
- **15° offset box end** helps to reduce swing obstacles and to minimize knuckle fatigue.
- Superior life-time test.



R-TYPE SHORT COMBINATION WRENCH



RSNV

Material | Chrome Vanadium Steel
Surface | Mirror / Matt / Micro Satin / Color Electro-deposition Finish
Feature | Flat Panel
15° Offset Box End
12 Point / 6 Point / Spline Box
Regular / Non-slip Open End

Size (inch)	Wt. (g)	L (mm)	Size (mm)	Wt. (g)	L (mm)
1/4	15	93	6	15	93
5/16	22	103	7	17	98
3/8	26	116	8	21	103
7/16	41	131	9	26	116
1/2	64	147	10	36	123
9/16	87	168	11	40	131
5/8	107	189	12	52	143
11/16	127	207	13	60	147
3/4	193	230	14	87	168
13/16	245	260	15	108	180
7/8	310	280	16	107	189
			17	122	207
			18	136	220
			19	193	230
			20	245	260
			21	245	260
			22	310	280
			23	310	280

R-TYPE SHORT SPEEDY COMBINATION WRENCH



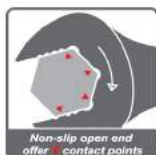
RSNQ2V

Material | Chrome Vanadium Steel
Surface | Mirror / Matt / Micro Satin / Color Electro-deposition Finish
Feature | Flat Panel
15° Offset Box End
12 Point / 6 Point / Spline Box
Speedy Open End

Size (inch)	Wt. (g)	L (mm)	Size (mm)	Wt. (g)	L (mm)
5/16	22	103	8	21	103
3/8	26	116	9	26	116
7/16	41	131	10	36	123
1/2	64	147	11	40	131
9/16	87	168	12	52	143
5/8	107	189	13	60	147
11/16	127	207	14	87	168
3/4	193	230	15	108	180
			16	107	189
			17	122	207
			18	136	220
			19	193	230

SN-TYPE EXTRA LONG COMBINATION WRENCH

- Made by heat-treated **Chrome Vanadium Steel** for strength exceeding international specifications.
- Professional plating prevents wrenches from corrosion.
- **15° offset box end** helps to reduce swing obstacles and to minimize knuckle fatigue.
- **Extra Long Panel** helps to reach deeper space.
- Superior life-time test.



Non-slip open end offer 12 contact points



Conventional open end offer 6 contact points

Specially designed open end gets better nut friction and minimizes slippage.



15° offset box end for knuckle clearance.



SN-TYPE EXTRA LONG COMBINATION WRENCH

MEETS OR EXCEEDS
A.N.S.I.
STANDARDS

EXCEPT FOR
DELIBERATE
NON-CHAMFER
BOX END



SNL

Material | Chrome Vanadium Steel

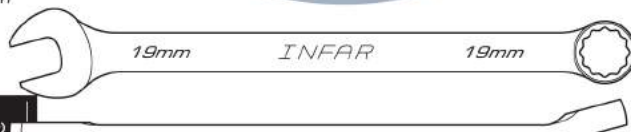
Surface | Mirror / Matt / Micro Satin / Color Electro-deposition Finish

Feature | Flat Panel

15° Offset Box End

12 Point / 6 Point / Spline Box

Regular / Non-slip Open End



Size (inch)	Wt. (g)	L (mm)	Size (mm)	Wt. (g)	L (mm)
1/4	20	130	6	20	130
5/16	33	148	7	24	136
11/32	51	167	8	33	148
3/8	50	167	9	49	167
7/16	71	186	10	56	172
1/2	103	207	11	67	186
9/16	131	223	12	87	197
5/8	160	243	13	98	207
11/16	200	261	14	132	223
3/4	230	280	15	141	233
13/16	315	301	16	159	243
7/8	353	318	17	215	261
15/16	415	338	18	217	270
1"	505	355	19	235	280
1-1/16	591	375	20	288	290
1-1/8	739	414	21	312	301
1-3/16	739	414	22	347	318
1-1/4	873	435	23	349	318
			24	436	338
			25	515	355
			26	527	355
			27	576	375
			28	591	375
			29	727	414
			30	720	414
			32	869	435

FUNCTION INTRODUCTION BOX END WITHOUT CHAMFER

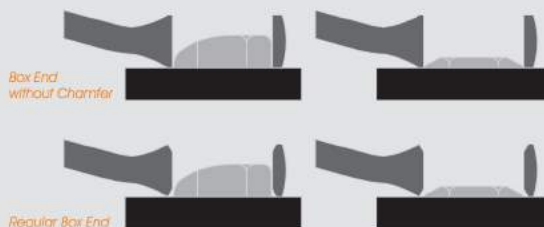
- Box end without chamfer increases the contact area with nuts, enhancing the torque of wrench.



Box End without Chamfer



Regular Box End



Box end without chamfer fits all types of corrupted nuts.

SN-TYPE EXTRA LONG METRIC & INCH COMBINATION WRENCH

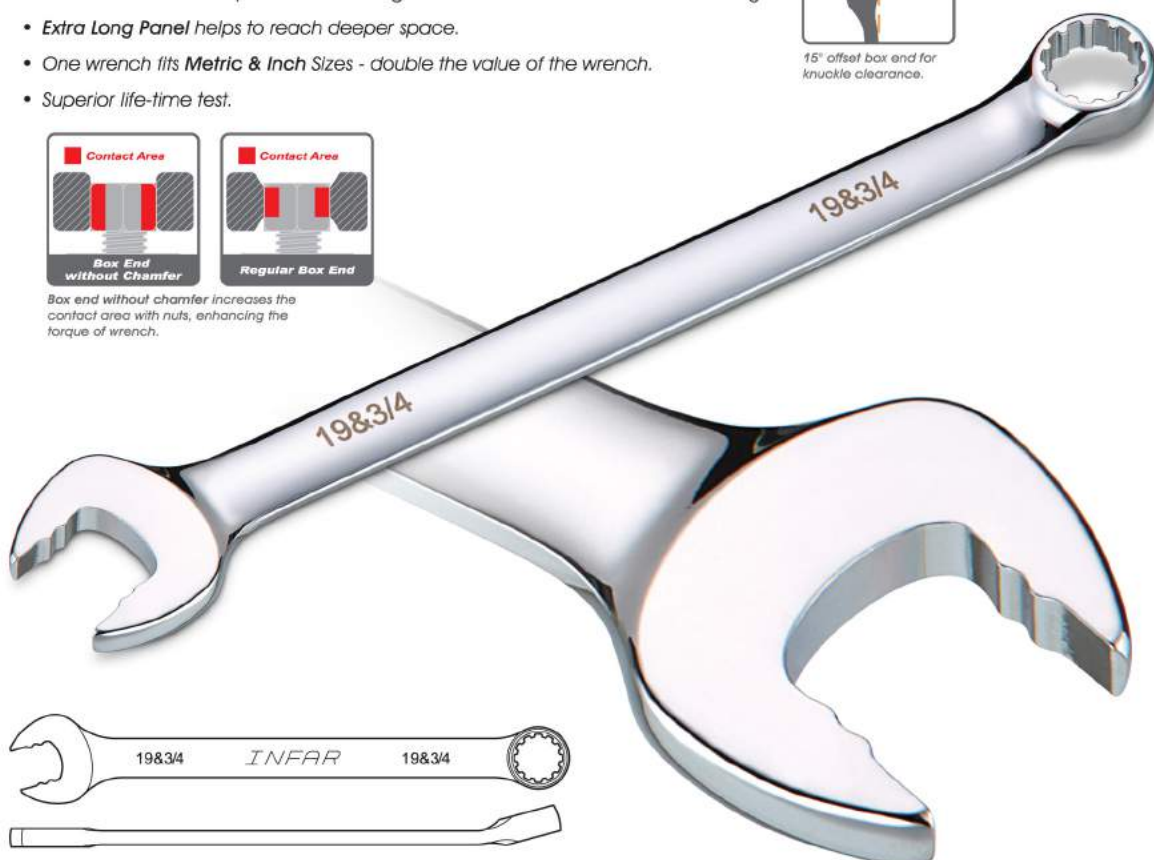
- Made by heat-treated **Chrome Vanadium Steel** for strength exceeding international specifications.
- Professional plating prevents wrenches from corrosion.
- **15° offset box end** helps to reduce swing obstacles and to minimize knuckle fatigue.
- **Extra Long Panel** helps to reach deeper space.
- One wrench fits **Metric & Inch** Sizes - double the value of the wrench.
- Superior life-time test.



15° offset box end for knuckle clearance.



Box end without chamfer increases the contact area with nuts, enhancing the torque of wrench.



SN-TYPE EXTRA LONG METRIC & INCH COMBINATION WRENCH



SNSPSM

Material | Chrome Vanadium Steel
Surface | Mirror / Matt / Micro Satin / Color Electro-deposition Finish
Feature | Flat Panel
15° Offset Box End
Spline Box
Metric & Inch Open End

Size (inch/mm)	Wt. (g)	L (mm)
5/16 8	33	148
3/8 10	56	172
7/16 11	71	186
1/2 13	103	207
9/16 14	131	223
5/8 16	160	243
11/16 17	200	261
3/4 19	230	280
13/16 21	315	301
7/8 22	353	318



Each open end fits Metric & Inch Sizes.

COMPARATIVE TABLE

AVAILABLE SIZES OF DIFFERENT FASTENERS

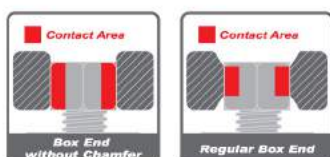
- Spline box works on all fastener types.



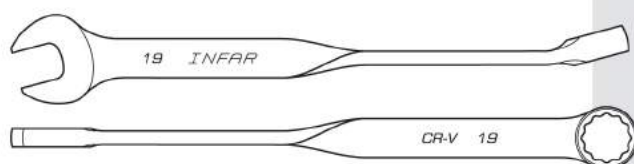
Size (mm/inch)	Size (mm/inch)	Size (mm)	Size (star)
8 5/16	7 9/32	8	E10
9 11/32	8 5/16	9	-
10 3/8	11/32	10	E12
11 7/16	9 3/8	11	E14
12 15/32	10 13/32	12	-
13 1/2	11 7/16	13	E16
14 9/16	12 15/32	14	E18
15 19/32	1 1/2	15	-
16 5/8	13 17/32	16	E20
17 11/16	14 9/16	17	E22
18 -	15 19/32	18	-
19 3/4	16 5/8	19	E24
21 13/16	18 11/16	21	-
22 7/8	19 3/4	22	E28

SN-TYPE EXTRA LONG TWIST COMBINATION WRENCH

- Made by heat-treated **Chrome Vanadium Steel** for strength exceeding international specifications.
- Professional plating prevents wrenches from corrosion.
- **15° offset box end** helps to reduce swing obstacles and to minimize knuckle fatigue.
- **Extra Long Panel** helps to reach deeper space.
- When performing the ratchet actions, the grip of twisting wrench allows more contact area of the palm, bearing less stress for the user.
- Superior life-time test.



Box end without chamfer increases the contact area with nuts, enhancing the torque of wrench.



SN-TYPE EXTRA LONG TWIST COMBINATION WRENCH



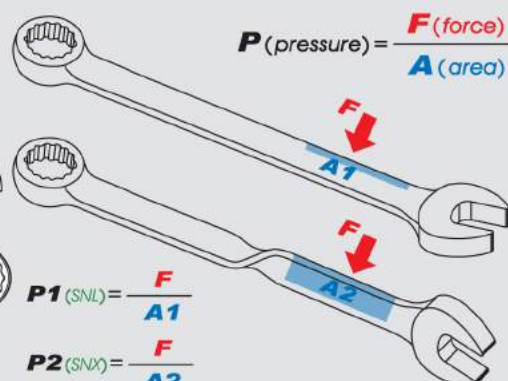
Material | Chrome Vanadium Steel
 Surface | Mirror / Matt / Micro Satin / Color Electro-deposition Finish
 Feature | Twisted Flat Panel
 15° Offset Box End
 12 Point / 6 Point / Spline Box
 Regular / Non-slip Open End

Size (inch)	Wt. (g)	L (mm)
1/4	20	130
5/16	33	148
11/32	51	167
3/8	50	167
7/16	71	186
1/2	103	207
9/16	131	223
5/8	160	243
11/16	200	261
3/4	230	280
13/16	315	301
7/8	353	318
15/16	415	338
1"	505	355

Size (mm)	Wt. (g)	L (mm)
6	20	130
7	24	136
8	33	148
9	49	167
10	56	172
11	67	186
12	87	197
13	98	207
14	132	223
15	141	233
16	159	243
17	215	261
18	217	270
19	235	280
20	288	290
21	312	301

FUNCTION INTRODUCTION TWISTED PANEL

- When performing the ratchet actions, the grip of twisting wrench allows more contact area of the palm, bearing less stress for the user.



$$P1 (SNL) = \frac{F}{A1}$$

$$P2 (SNX) = \frac{F}{A2}$$

$$F = P1 (SNL) \times A1$$

$$F = P2 (SNX) \times A2$$

$$P1 (SNL) \times A1 = P2 (SNX) \times A2$$

$$A1 < A2 \Rightarrow P1 (SNL) < P2 (SNX)$$



15° offset box end for knuckle clearance.

A-TYPE COMBINATION WRENCH

- Made by heat-treated **Forged Alloy Steel** for strength exceeding international specifications.
- Professional plating prevents wrenches from corrosion.
- **15° offset box end** helps to reduce swing obstacles and to minimize knuckle fatigue.
- Superior life-time test.

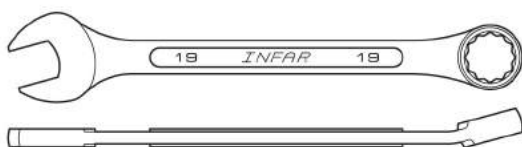


A-TYPE JUMBO COMBINATION WRENCH



Material | Medium Carbon Steel
Surface | Matt / Black Oxide Finish
Feature | Raised Panel
15° Offset Box End

Size (inch)	Wt. (g)	L (mm)	Size (mm)	Wt. (g)	L (mm)
1-5/16	1010	460	33	1020	460
1-3/8	1010	460	34	1010	460
1-7/16	1270	485	35	990	460
1-1/2	1260	485	36	1270	485
1-5/8	1680	539	38	1210	485
1-11/16	1660	539	40	1710	539
1-3/4	1960	610	41	1750	539
1-13/16	1940	610	42	1720	539
1-7/8	2490	610	45	1860	610
2"	2400	610	46	1900	610
2-1/16	4460	665	50	2420	610
2-1/8	4340	665	55	3900	665
2-3/16	4340	665	60	5530	760
2-1/4	3870	665	65	5330	760
2-5/16	3800	665			
2-3/8	5660	760			
2-7/16	5530	760			
2-1/2	5600	760			
2-9/16	5530	760			



A-TYPE COMBINATION WRENCH



Material | Medium Carbon / Chrome Vanadium Steel
Surface | Matt Finish
Feature | Raised Panel
15° Offset Box End
12 Point / 6 Point / Spline Box

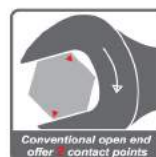
Size (inch)	Wt. (g)	L (mm)	Size (mm)	Wt. (g)	L (mm)	Size (mm)	Wt. (g)	L (mm)
1/4	16	93	5.5	16	93	21	205	242
5/16	23	103	6	16	93	22	245	260
3/8	30	116	7	19	98	23	280	280
7/16	41	131	8	26	103	24	365	309
1/2	55	147	9	31	116	25	420	332
9/16	87	168	10	39	123	26	415	332
5/8	118	189	11	41	131	27	525	358
11/16	142	207	12	54	143	28	650	380
3/4	182	230	13	56	147	29	650	380
13/16	245	260	14	89	168	30	650	380
7/8	280	280	15	119	189	32	810	418
15/16	365	309	16	133	196			
1"	420	332	17	146	207			
1-1/16	525	358	18	154	220			
1-1/8	650	380	19	184	230			
1-1/4	810	418	20	174	230			



15° offset box end for knuckle clearance.

GERMAN-TYPE COMBINATION WRENCH

- Made by heat-treated **Chrome Vanadium Steel** for strength exceeding international specifications.
- Professional plating prevents wrenches from corrosion.
- **13° offset box end** helps to reduce swing obstacles and to minimize knuckle fatigue.
- Superior life-time test.



Specially designed open end gets better nut friction and minimizes slippery.

GERMAN-TYPE COMBINATION WRENCH



GC/GC3

Material | Chrome Vanadium Steel

Surface | Mirror / Matt / Micro Satin / Color Electro-deposition Finish

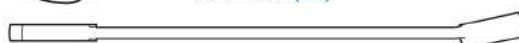
Feature | **Meets or Exceeds DIN3113 Standards**

Sunk / Flat Panel

13° Offset Box End

12 Point / Spline Box

Regular / Non-slip Open End



Size (inch)	Wt. (g)	L (mm)
1/4	15	100
9/32	18	110
5/16	26	120
11/32	30	130
3/8	38	140
7/16	46	150
1/2	68	170
9/16	79	180
5/8	110	200
11/16	141	210
3/4	150	230
25/32	168	240
13/16	194	250
7/8	225	260
15/16	295	280
1"	330	295
1-1/16	385	310
1-1/8	505	340
1-1/4	600	360
1-5/16	635	380
1-3/8	810	410
1-7/16	805	410
1-1/2	995	430
1-5/8	1265	460
1-11/16	1260	460
1-3/4	1635	500
1-13/16	1625	500
1-7/8	2110	540
2"	2075	540

Size (mm)	Wt. (g)	L (mm)
5	11	93
5.5	11	93
6	15	100
7	18	110
8	23	120
9	31	130
10	34	140
11	47	150
12	53	160
13	65	170
14	82	180
15	92	190
16	103	200
17	123	210
18	137	220
20	169	240
21	196	250
22	220	260
23	215	260
24	280	280
25	320	295
26	310	295
27	385	310
28	495	340
29	495	340
30	495	340
32	550	360
33	670	380
34	640	380

Size (mm)	Wt. (g)	L (mm)
35	805	410
36	810	410
38	965	430
41	1260	460
43	1260	460
45	1655	500
46	1630	500
48	2075	540
50	2075	540
51	2075	540
55	-	560
60	-	600
65	-	675
70	-	675
75	-	720
80	-	720
85	-	780
90	-	780
95	-	780
100	-	855
105	-	855



13° offset box end for knuckle clearance.



Material | Chrome Vanadium Steel (WG)

Surface | Mirror / Matt / Micro Satin Finish

Feature | **Meets or Exceeds Whitworth Standards**
Sunk / Flat Panel
13° Offset Box End

Size (ww inch)	Wt. (g)	L (mm)
ww1/8	39	140
ww3/16	54	160
ww1/4	85	180
ww5/16	106	200
ww3/8	133	220
ww7/16	195	250
ww1/2	295	280
ww9/16	330	295
ww5/8	510	340
ww11/16	600	360
ww3/4	640	380
ww7/8	970	410

Note: Jumbo size above 70mm only supply with laser marking.