



**ORSS
SPRING RATES .**



Technical Product Overview: The K-Tech Off Road Spring System (ORSS) is a professional-grade suspension solution engineered to replace the factory air spring systems found on contemporary off-road motorcycles. This sophisticated system allows for the complete removal of OEM air components, substituting them with a high-performance, conventional coil spring architecture for a more consistent and predictable feel throughout the fork's stroke.

As a direct replacement for factory air systems, the ORSS is a "drop-in" solution that requires no machining or permanent modifications to the fork internals. The system provides three critical technical benefits for the professional and competitive rider.

Conventional Spring Reliability: By utilizing a high-grade coil spring, the ORSS eliminates the performance variables and failure risks associated with air pressure fluctuations and seal temperature changes.

External Preload Adjustment: The system features an integrated external spring preload adjuster, allowing for precise sag tuning and chassis balancing without requiring internal disassembly.

Integrated Hydraulic Bottoming Device: To protect the rider on hard landings and significant impacts, the system features a dedicated hydraulic bottoming device. This provides a progressive increase in damping at the final stage of the stroke, preventing harsh mechanical bottoming and protecting the motorcycle's structural integrity.

Note: All spring rate recommendations are calculated based on the Rider weight without riding kit.

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Choosing Your Spring Rate:

To ensure your K-Tech ORSS provides the best performance and handling, select the spring rate that most closely aligns with your weight. When your weight falls between two of the 10kg increments shown on the chart, please follow this selection guide:

Lower Half of the Bracket: If you are in the lower half of a 10kg spread (e.g., weighing between 55kg and 60kg for a 55kg–65kg bracket), choose the lower spring rate (55kg options).

Upper Half of the Bracket: If you are in the upper half of a 10kg spread (e.g., weighing between 60kg and 65kg for a 55kg–65kg bracket), choose the higher spring rate (65kg options).

Key Selection Reminders:

- **Weight Calculation:** Always use your rider weight without riding kit when referencing these charts
- **Precision Tuning:** If you fall exactly on the border between two rates, remember that the K-Tech ORSS features external spring preload adjustment
This allows you to fine-tune your sag for a perfect setup without needing to disassemble the fork



***GAS GAS – Rider Weight / Spring Rates ORSS
MC 85 (2021-2024) FF ORSS Spring: 385-580- | Std Shock Spring: 59-215-40***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
30	66	385-580-52	59-215-25
35	77	385-580-56	59-215-30
40	88	385-580-60	59-215-35
45	99	385-580-64	59-215-40
50	110	385-580-68	59-215-45
55	121	385-580-72	59-215-50
60	132	385-580-76	59-215-55
65	143	385-580-76	59-215-60



***GAS GAS – Rider Weight / Spring Rates ORSS
MC 85 (2025>) FF ORSS Spring: 385-580- / Std Shock Spring: 59-215-45***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
30	66	385-580-52	59-215-30
35	77	385-580-56	59-215-35
40	88	385-580-60	59-215-40
45	99	385-580-64	59-215-45
50	110	385-580-68	59-215-50
55	121	385-580-72	59-215-55
60	132	385-580-76	59-215-60
65	143	385-580-76	59-215-60



***GAS GAS – Rider Weight / Spring Rates ORSS
MC 125 (2021>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-39***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
45	99	435-660-72	63-260-31
55	121	435-660-76	63-260-33
65	143	435-660-76	63-260-36
75	165	435-660-80	63-260-39
85	187	435-660-80	63-260-42
95	209	435-660-84	63-260-45
105	231	435-660-84	63-260-48
115	253	435-660-88	63-260-51



GAS GAS - Rider Weight / Spring Rates ORSS

MC 250F (2021>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-42

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***GAS GAS – Rider Weight / Spring Rates ORSS
MC 350F (2021-2023) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-42***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***GAS GAS – Rider Weight / Spring Rates ORSS
MC 350F (2024➤) FF ORSS Spring: 435-660- / Shock Spring: 63-260-45***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***GAS GAS – Rider Weight / Spring Rates ORSS
MC 450F (2021>2023) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-42***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***GAS GAS – Rider Weight / Spring Rates ORSS
MC 450F (2024›) FF ORSS Spring: 435-660- | Std Shock Spring: 63-260-45***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



KTM - Rider Weight / Spring Rates ORSS
85SX (2018>2024) FF ORSS Spring: 385-580- / Std Shock Spring: 59-215-40

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
30	66	385-580-52	59-215-25
35	77	385-580-56	59-215-30
40	88	385-580-60	59-215-35
45	99	385-580-64	59-215-40
50	110	385-580-68	59-215-45
55	121	385-580-72	59-215-50
60	132	385-580-76	59-215-55
65	143	385-580-76	59-215-60



KTM - Rider Weight / Spring Rates ORSS
85SX (2025>) FF ORSS Spring: 385-580- / Std Shock Spring: 59-215-45

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
30	66	385-580-52	59-215-30
35	77	385-580-56	59-215-35
40	88	385-580-60	59-215-40
45	99	385-580-64	59-215-45
50	110	385-580-68	59-215-50
55	121	385-580-72	59-215-55
60	132	385-580-76	59-215-60
65	143	385-580-76	59-215-60



***KTM - Rider Weight / Spring Rates ORSS
125SX (2016>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-39***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
45	99	435-660-72	63-260-31
55	121	435-660-76	63-260-33
65	143	435-660-76	63-260-36
75	165	435-660-80	63-260-39
85	187	435-660-80	63-260-42
95	209	435-660-84	63-260-45
105	231	435-660-84	63-260-48
115	253	435-660-88	63-260-51



***KTM - Rider Weight / Spring Rates ORSS
250SX (2017>2022) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-42***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
45	99	435-660-80	63-260-33
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-84	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-88	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-92	63-260-54



***KTM - Rider Weight / Spring Rates ORSS
250SX (2023>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-45***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
45	99	435-660-80	63-260-36
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-84	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-88	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-92	63-260-54



***KTM - Rider Weight / Spring Rates ORSS
250SX-F (2016>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-42***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



KTM - Rider Weight / Spring Rates ORSS
350SX-F (2016>2022) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-42

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



KTM - Rider Weight / Spring Rates ORSS
350SX-F (2023>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-45

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***KTM - Rider Weight / Spring Rates ORSS
450SX-F (2016>2022) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-42***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***KTM - Rider Weight / Spring Rates ORSS
450SX-F (2023>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-45***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***KTM - Rider Weight / Spring Rates ORSS
450SMR (2018-2022) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-48***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-92	63-260-45
65	143	435-660-92	63-260-48
75	165	435-660-96	63-260-51
85	187	435-660-96	63-260-54
95	209	435-660-100	63-260-57
105	231	435-660-100	63-260-60
115	253	435-660-104	63-260-63
125	275	435-660-104	63-260-66



KTM - Rider Weight / Spring Rates ORSS
450SMR (2023>2024) FF ORSS Spring: 435-660- / Std Shock Spring: 63-240-51

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-92	63-260-45
65	143	435-660-92	63-260-48
75	165	435-660-96	63-260-51
85	187	435-660-96	63-260-54
95	209	435-660-100	63-260-57
105	231	435-660-100	63-260-60
115	253	435-660-104	63-260-63
125	275	435-660-104	63-260-66



***HUSQVARNA – Rider Weight / Spring Rates ORSS
TC85 (2018>2024) FF ORSS Spring: 385-580- / Std Shock Spring: 59-215-40***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
30	66	385-580-52	59-215-25
35	77	385-580-56	59-215-30
40	88	385-580-60	59-215-35
45	99	385-580-64	59-215-40
50	110	385-580-68	59-215-45
55	121	385-580-72	59-215-50
60	132	385-580-76	59-215-55
65	143	385-580-76	59-215-60



***HUSQVARNA – Rider Weight / Spring Rates ORSS
TC85 (2025>) FF ORSS Spring: 385-580- / Std Shock Spring: 59-215-45***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
30	66	385-580-52	59-215-30
35	77	385-580-56	59-215-35
40	88	385-580-60	59-215-40
45	99	385-580-64	59-215-45
50	110	385-580-68	59-215-50
55	121	385-580-72	59-215-55
60	132	385-580-76	59-215-60
65	143	385-580-76	59-215-60



***HUSQVARNA – Rider Weight / Spring Rates ORSS
TC125 (2017>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-39***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
45	99	435-660-72	63-260-31
55	121	435-660-76	63-260-33
65	143	435-660-76	63-260-36
75	165	435-660-80	63-260-39
85	187	435-660-80	63-260-42
95	209	435-660-84	63-260-45
105	231	435-660-84	63-260-48
115	253	435-660-88	63-260-51



***HUSQVARNA – Rider Weight / Spring Rates ORSS
TC250 (2017>2022) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-42***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
45	99	435-660-80	63-260-33
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-84	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-88	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-92	63-260-54



***HUSQVARNA – Rider Weight / Spring Rates ORSS
TC250 (2023>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-45***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
45	99	435-660-80	63-260-33
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-84	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-88	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-92	63-260-54



***HUSQVARNA – Rider Weight / Spring Rates ORSS
FC250 (2017>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-42***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***HUSQVARNA – Rider Weight / Spring Rates ORSS
FC350 (2017>2022) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-42***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***HUSQVARNA – Rider Weight / Spring Rates ORSS
FC350 (2023>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-45***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***HUSQVARNA – Rider Weight / Spring Rates ORSS
FC450 (2017>2022) FF ORSS Spring: 435-660- | Shock Spring: 63-260-42***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***HUSQVARNA – Rider Weight / Spring Rates ORSS
FC450 (2023>) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-45***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-80	63-260-36
65	143	435-660-84	63-260-39
75	165	435-660-88	63-260-42
85	187	435-660-88	63-260-45
95	209	435-660-92	63-260-48
105	231	435-660-92	63-260-51
115	253	435-660-96	63-260-54
125	275	435-660-100	63-260-57



***HUSQVARNA – Rider Weight / Spring Rates ORSS
FS450 (2018>2022) FF ORSS Spring: 435-660- / Std Shock Spring: 63-260-48***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-92	63-260-42
65	143	435-660-92	63-260-45
75	165	435-660-96	63-260-48
85	187	435-660-96	63-260-51
95	209	435-660-100	63-260-54
105	231	435-660-100	63-260-57
115	253	435-660-104	63-260-60
125	275	435-660-104	63-260-63



***HUSQVARNA – Rider Weight / Spring Rates ORSS
FS450 (2023>2024) FF ORSS Spring: 435-660- / Std Shock Spring: 63-240-51***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	435-660-92	63-260-45
65	143	435-660-92	63-260-48
75	165	435-660-96	63-260-51
85	187	435-660-96	63-260-54
95	209	435-660-100	63-260-57
105	231	435-660-100	63-260-60
115	253	435-660-104	63-260-63
125	275	435-660-104	63-260-66



***HONDA - Rider Weight / Spring Rates ORSS
CRF250R (2015–2017) FF ORSS Spring: 45-660- / Std Shock Spring: 6466-250-52***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	45-660-80	6466-250-39
65	143	45-660-84	6466-250-42
75	165	45-660-84	6466-250-45
85	187	45-660-88	6466-250-48
95	209	45-660-92	6466-250-51
105	231	45-660-92	6466-250-54
115	253	45-660-96	6466-250-57
125	275	45-660-100	6466-250-60



***KAWASAKI – Rider Weight / Spring Rates ORSS
KX450F (2015–2018) FF ORSS Spring: 45-660- / Std Shock Spring: 6466-260-50***

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	45-660-84	6466-260-45
65	143	45-660-84	6466-260-475
75	165	45-660-88	6466-260-50
85	187	45-660-88	6466-260-525
95	209	45-660-92	6466-260-55
105	231	45-660-96	6466-260-575
115	253	45-660-100	6466-260-60
125	275	45-660-104	6466-260-625



SUZUKI – Rider Weight / Spring Rates ORSS
RMZ450F (2015–2017) FF ORSS Spring: 45-660- / Std Shock Spring: 6466-260-50

Rider Weight (KG)	Rider Weight (lbs)	ORSS FF Spring	Shock Spring
55	121	45-660-84	6466-260-45
65	143	45-660-84	6466-260-475
75	165	45-660-88	6466-260-50
85	187	45-660-88	6466-260-525
95	209	45-660-92	6466-260-55
105	231	45-660-96	6466-260-575
115	253	45-660-100	6466-260-60
125	275	45-660-104	6466-260-625

Installation and Support Information

The K-Tech Off Road Spring System is engineered as a direct "drop-in" replacement for factory air systems. This simplified architecture allows for the complete removal of the original air spring system and replacement with a more conventional coil spring architecture. The conversion requires no machining or permanent modification to the fork internals.

For technical assistance, part availability, or installation support, please contact:

K-Tech Suspension Limited Marquis Court, Rawdon Business Park, Swadlincote, Derbyshire, DE12 6EJ United Kingdom

Email: enquiries@ktechsuspension.com