Which Video Quality Measurement Setup Do You Have?

One question sorts every metric: how much of the pristine original do you have where you measure? Answer it first, then pick a metric from that row.

Setup	You compare against	Metrics & standards	Use / where it lies
Full-reference (FR)	The complete pristine original	PSNR, SSIM, MS-SSIM, VMAF; ITU-T J.144, J.247	Lab: encoder tests, regression, VOD QC, CI/CD gates. Most accurate — but useless with no master and BROKEN if misaligned.
Reduced-reference (RR)	A small feature fingerprint of the original	NTIA low-bandwidth model; ITU-T J.246, J.249	In-service broadcast monitoring. Needs a side channel to the source — rarely deployed today.
No-reference (NR / blind)	Nothing — the impaired video alone	NIQE, BRISQUE, NR-VMAF, UVQ; ITU-T P.1203, P.1204.3	Live, video calls, surveillance, UGC. The only option with no master — and the hardest to trust.

Two pitfalls to avoid

Quoting a full-reference metric where there is no reference.

“Our live stream scored VMAF 92” is a category error: VMAF needs a master a live capture does not have. Name the setup before the metric.

An unaligned full-reference score.

A few frames, one pixel, or a brightness shift makes PSNR/SSIM/VMAF report a collapse the eye never sees. Calibrate alignment first, score second.